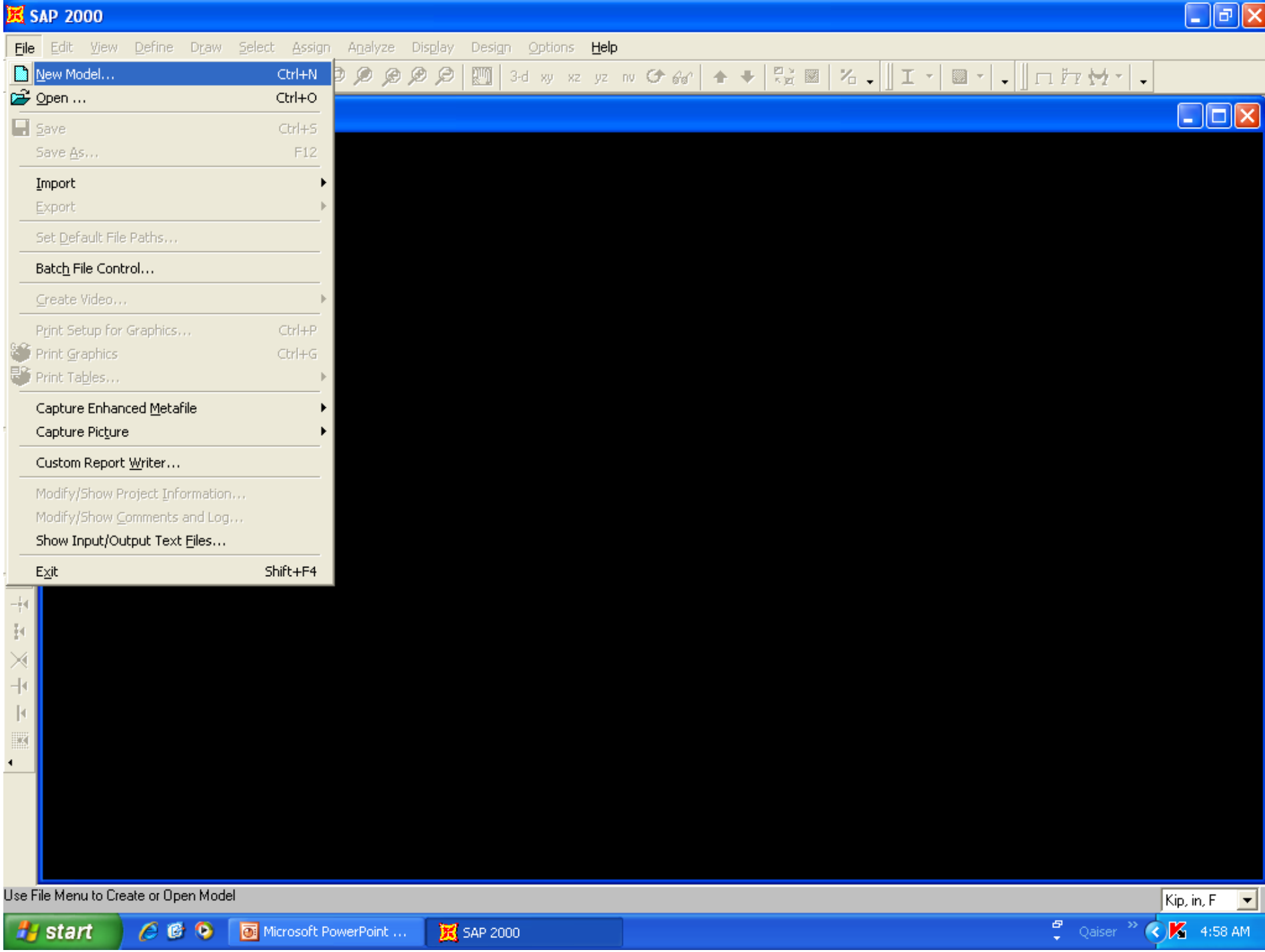
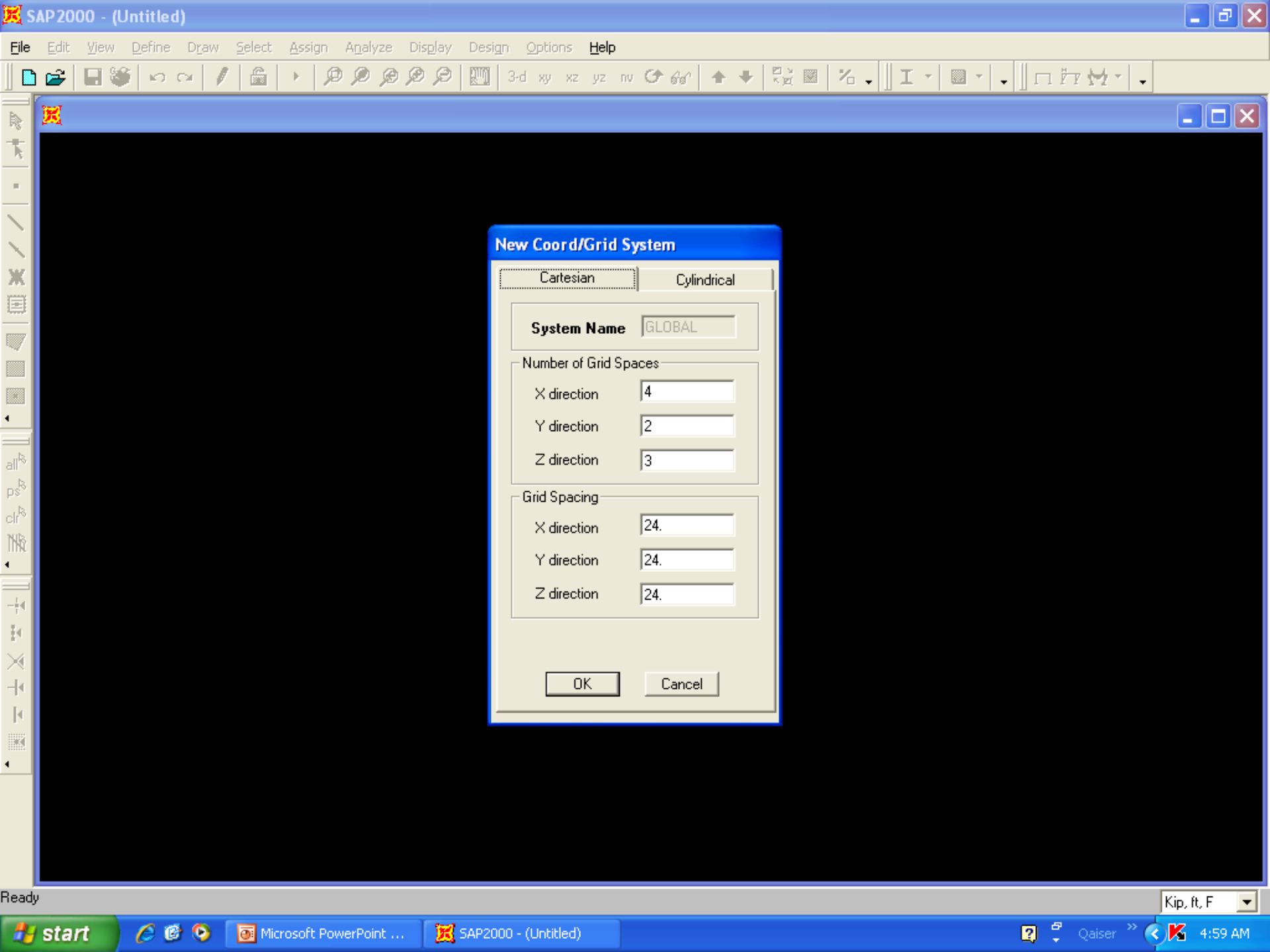
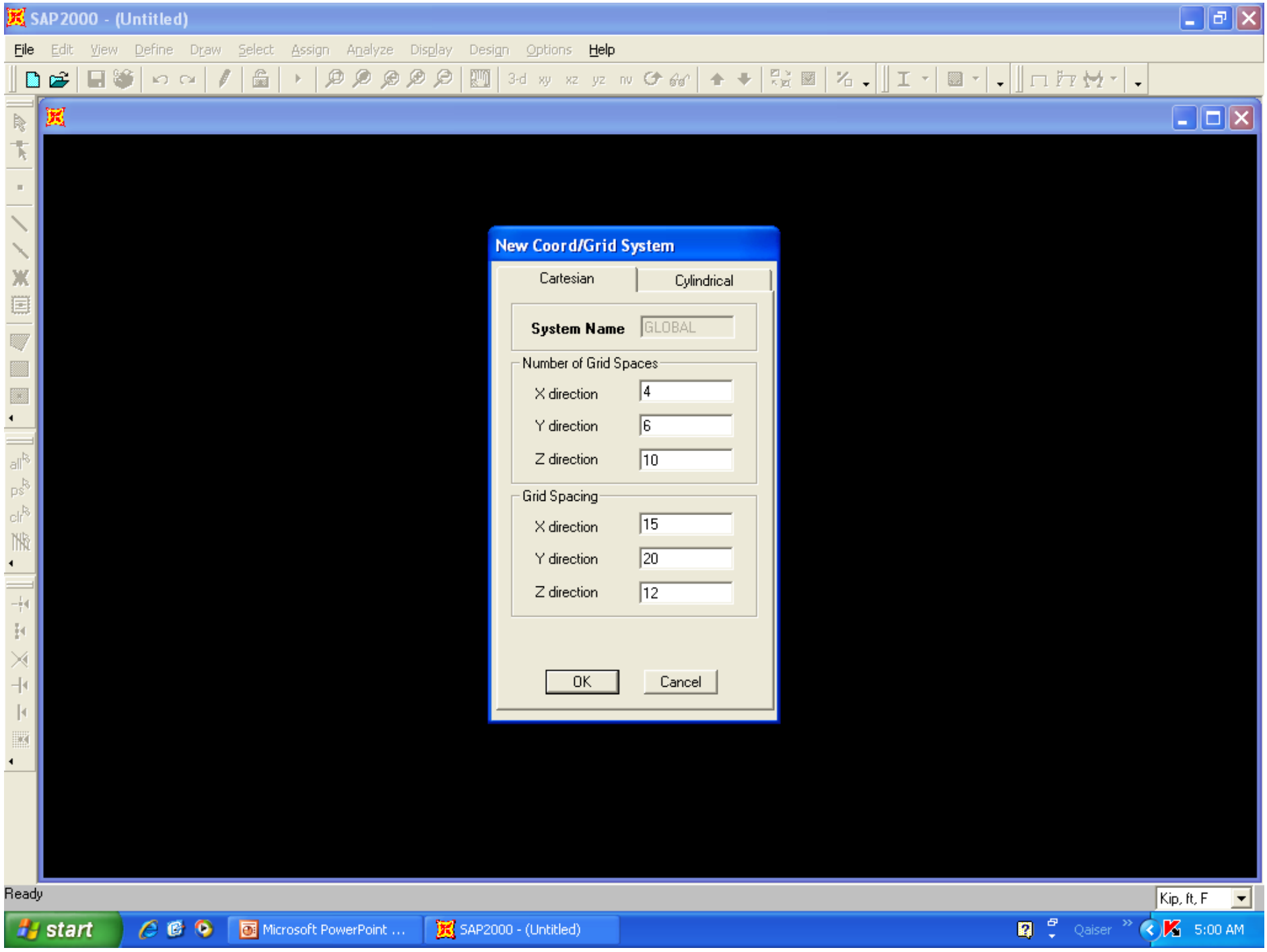
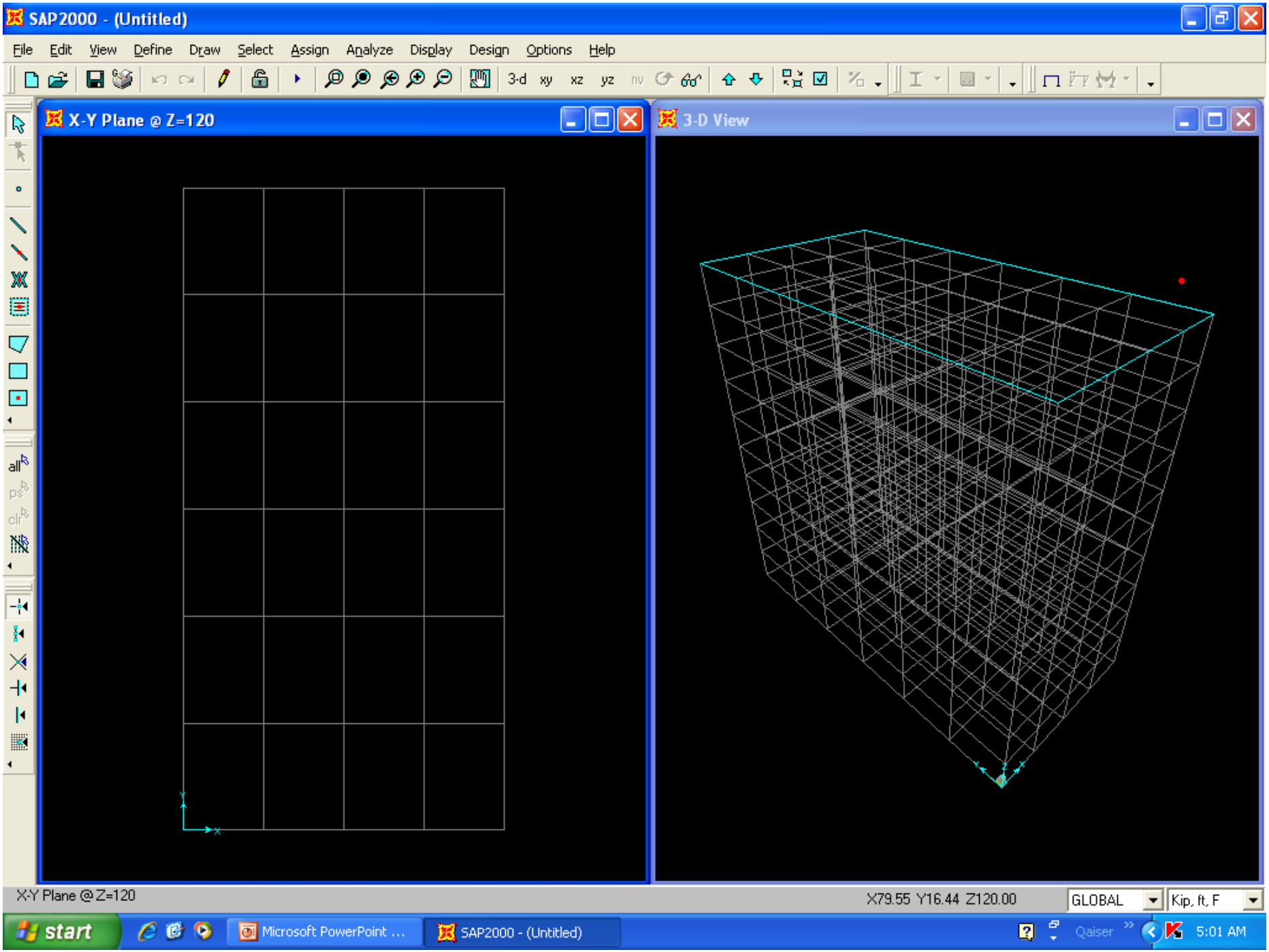
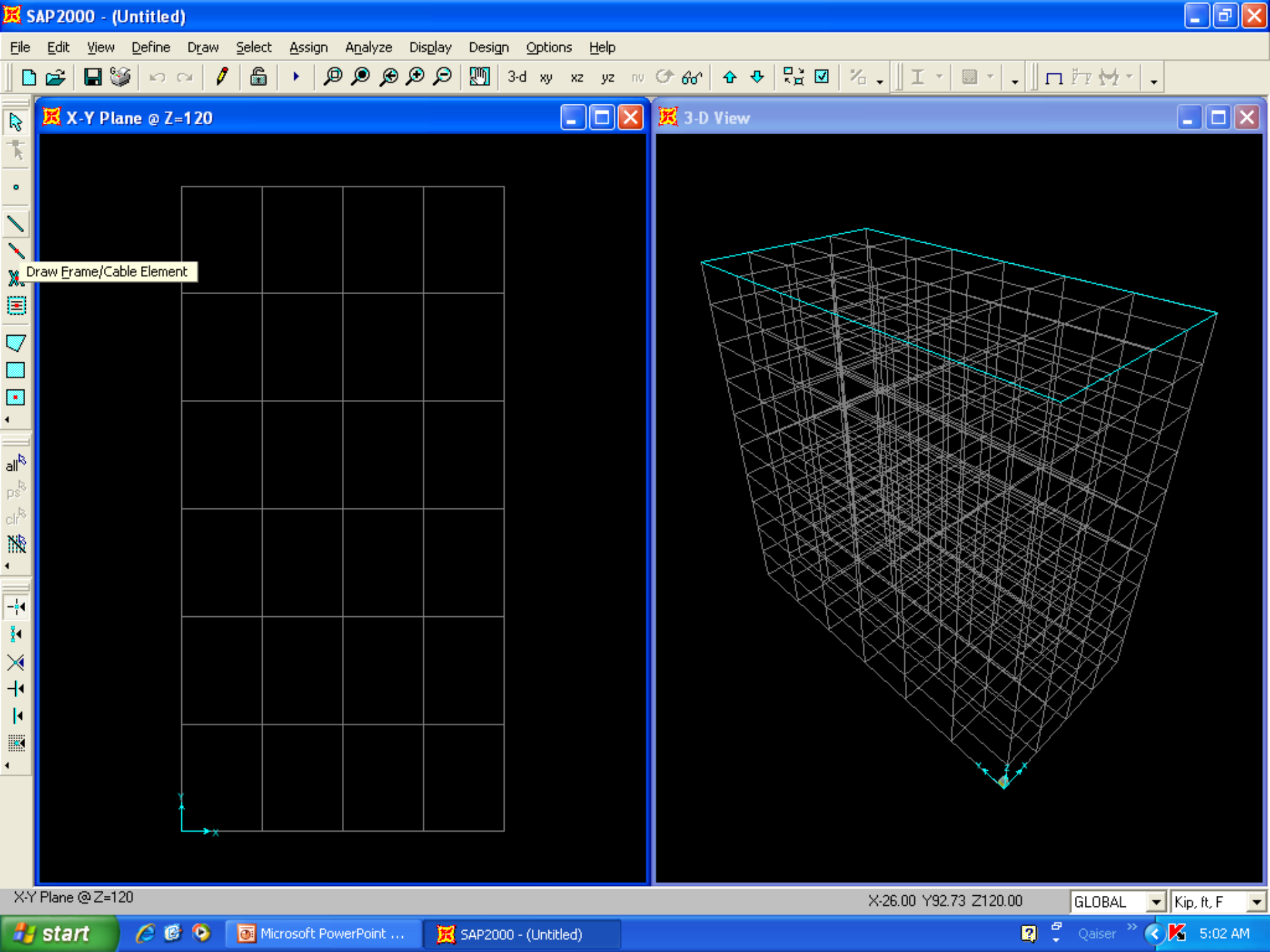
Analysis and Design of RC frame structure using SAP

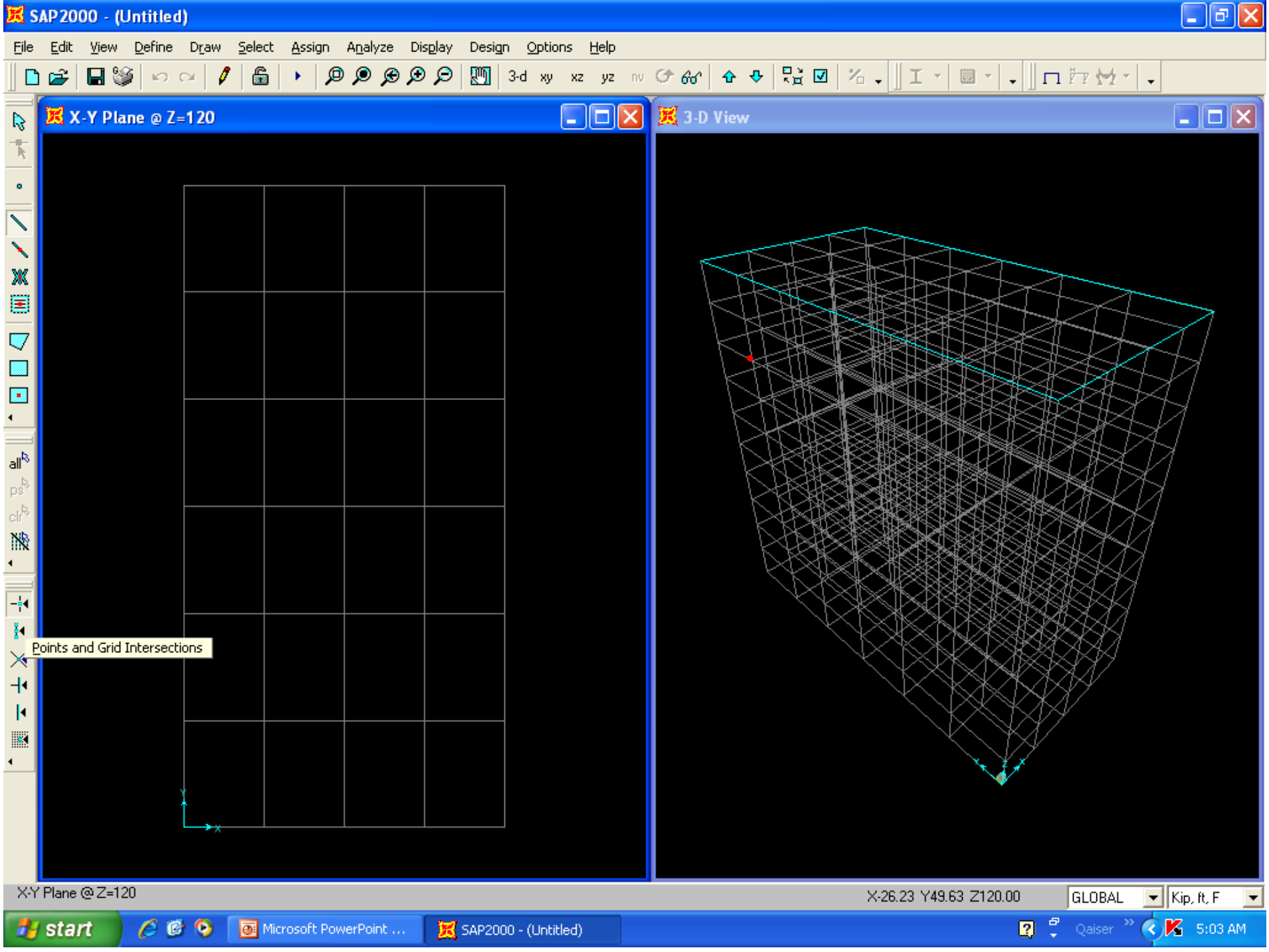

SAP 2000
File Edit View Define Draw Select Assign Analyze Display Design Options Help
New Model... Ctrl+N
Open ... Ctrl+O
Save Ctrl+S
Save As... F12
Import
Export
Set Default File Paths...
Batch File Control...
Create Video...
Print Setup for Graphics... Ctrl+P
Print Graphics Ctrl+G
Print Tables...
Capture Enhanced Metafile
Capture Picture
Custom Report Writer...
Modify/Show Project Information...
Modify/Show Comments and Log...
Show Input/Output Text Files...
Exit Shift+F4
Use File Menu to Create or Open Model
Kip, in, F
start
Microsoft PowerPoint ...
SAP 2000
Qaiser
4:58 AM

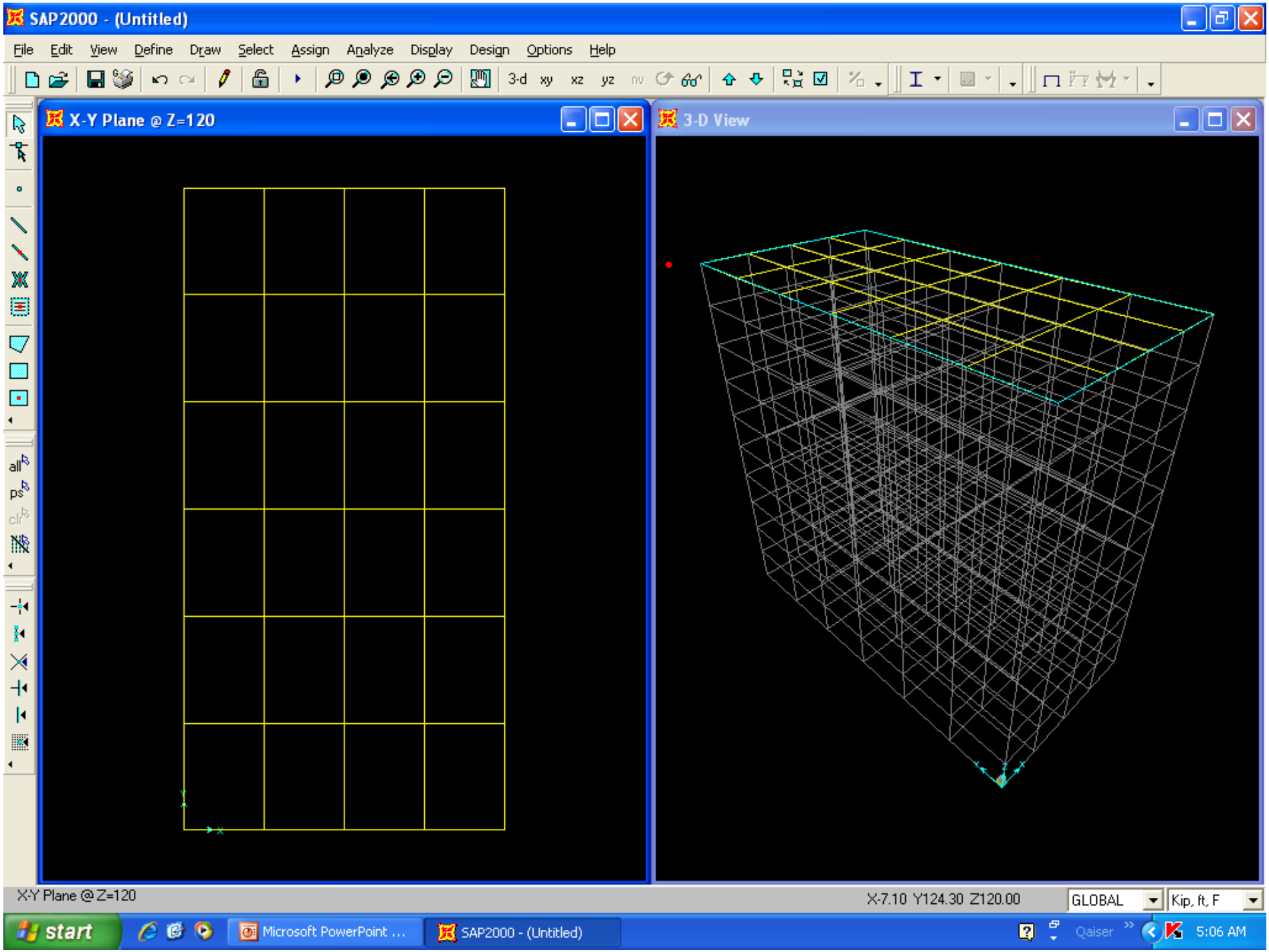

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
New Coord/Grid System
Cartesian
Cylindrical
System Name
GLOBAL
Number of Grid Spaces
X direction
4
Y direction
2
Z direction
3
Grid Spacing
X direction
24.
Y direction
24.
Z direction
24.
OK
Cancel
Ready
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
4:59 AM

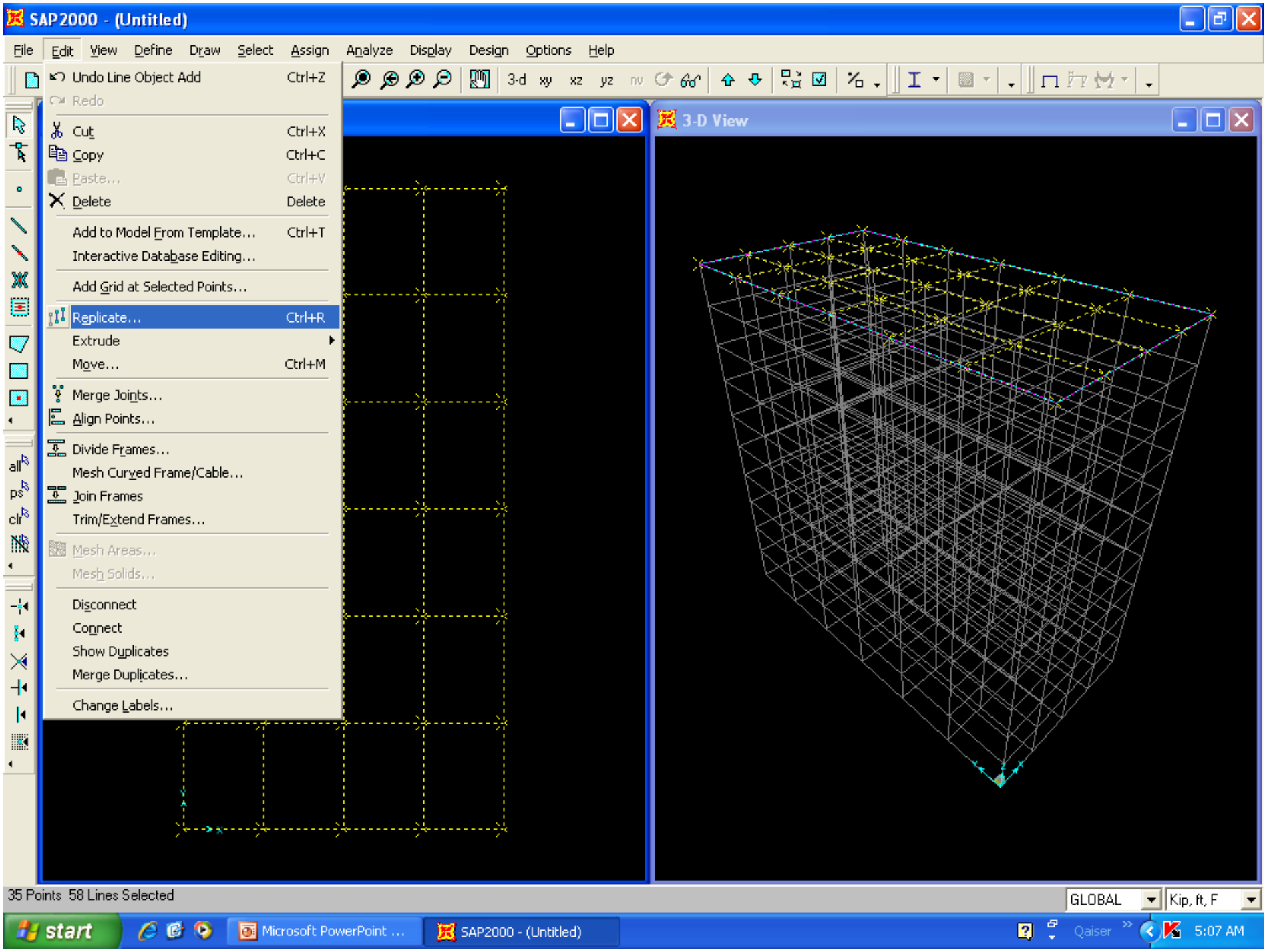

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
New Coord/Grid System
Cartesian
Cylindrical
System Name
GLOBAL
Number of Grid Spaces
X direction
4
Y direction
6
Z direction
10
Grid Spacing
X direction
15
Y direction
20
Z direction
12
OK
Cancel
Ready
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:00 AM

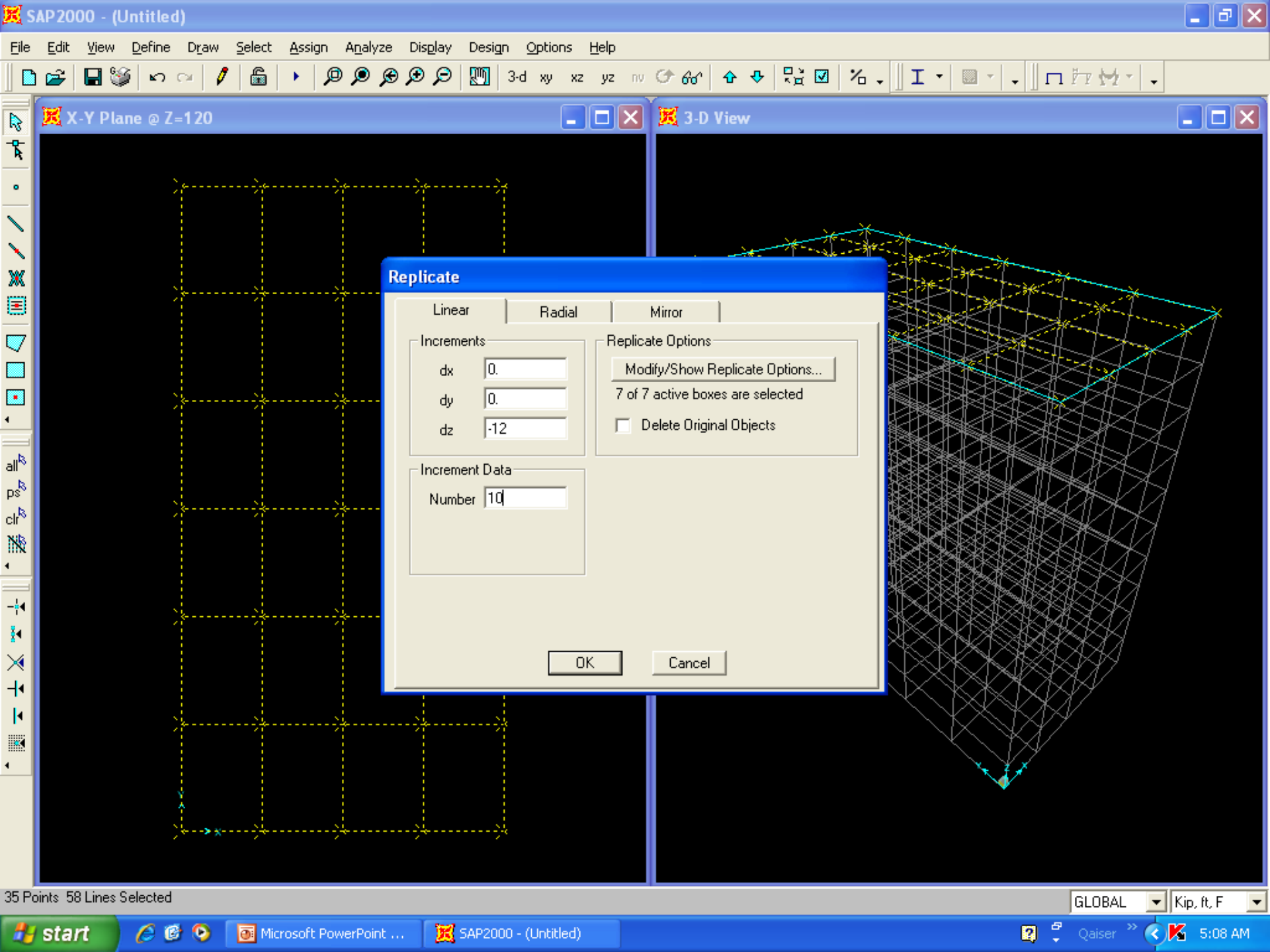

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz
X-Y Plane @ Z=120
3-D View
X-Y Plane @ Z=120
X79.55 Y16.44 Z120.00
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:01 AM

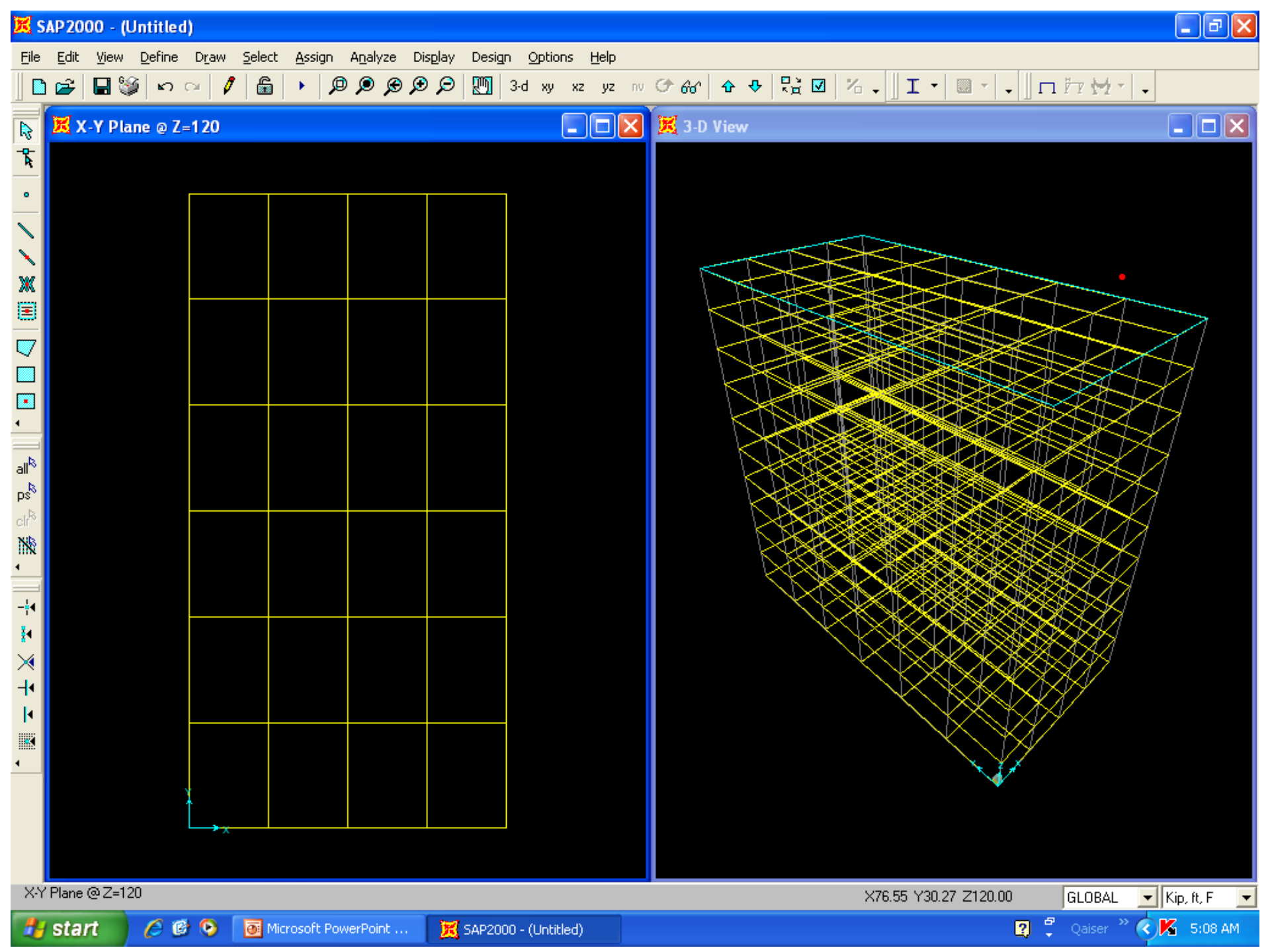

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
X-Y Plane @ Z=120
Draw Frame/Cable Element
3-D View
X-Y Plane @ Z=120
X-26.00 Y92.73 Z120.00
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:02 AM

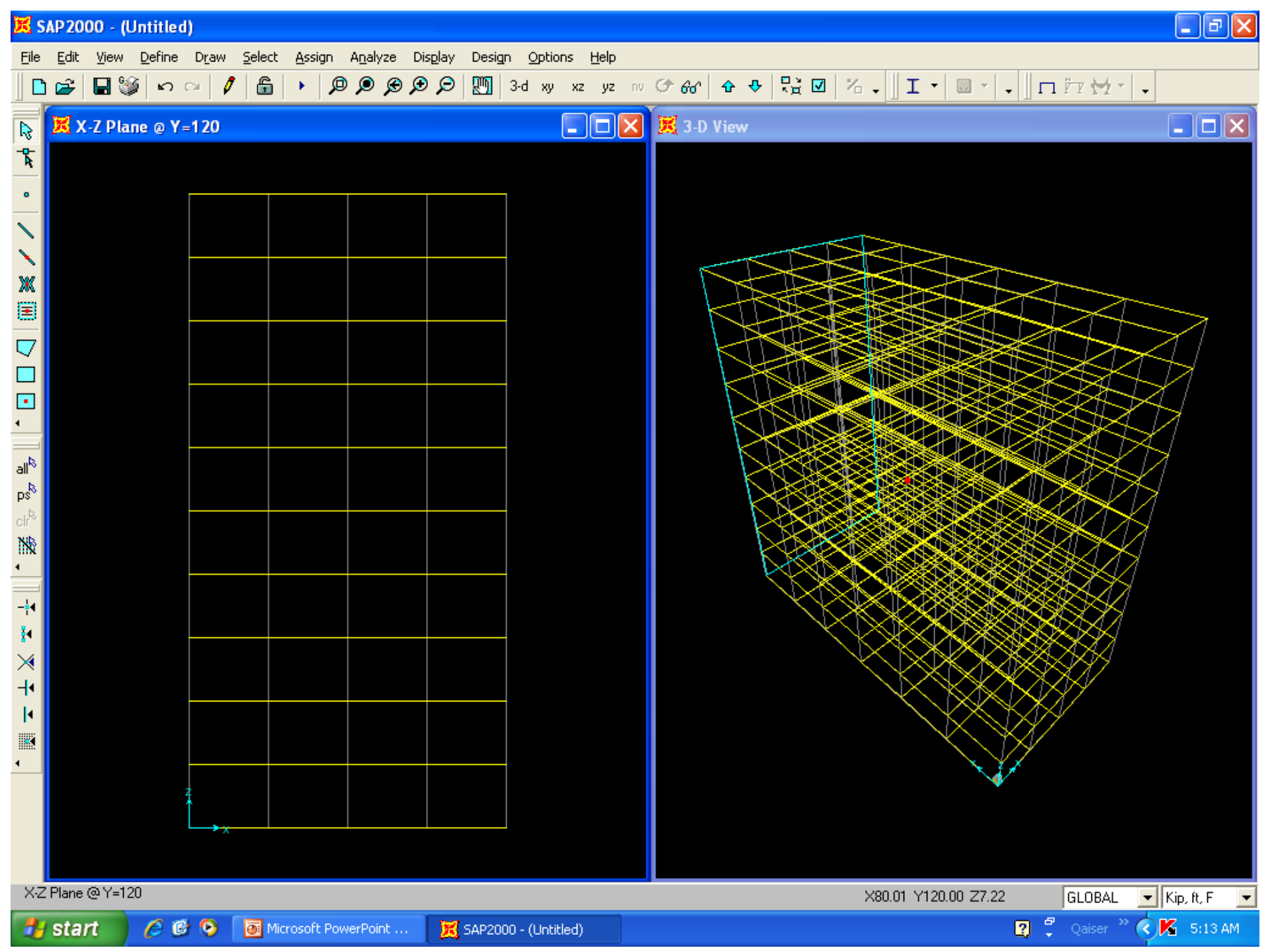

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
X-Y Plane @ Z=120
3-D View
Points and Grid Intersections
X-Y Plane @ Z=120
X-26.23 Y49.63 Z120.00
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:03 AM

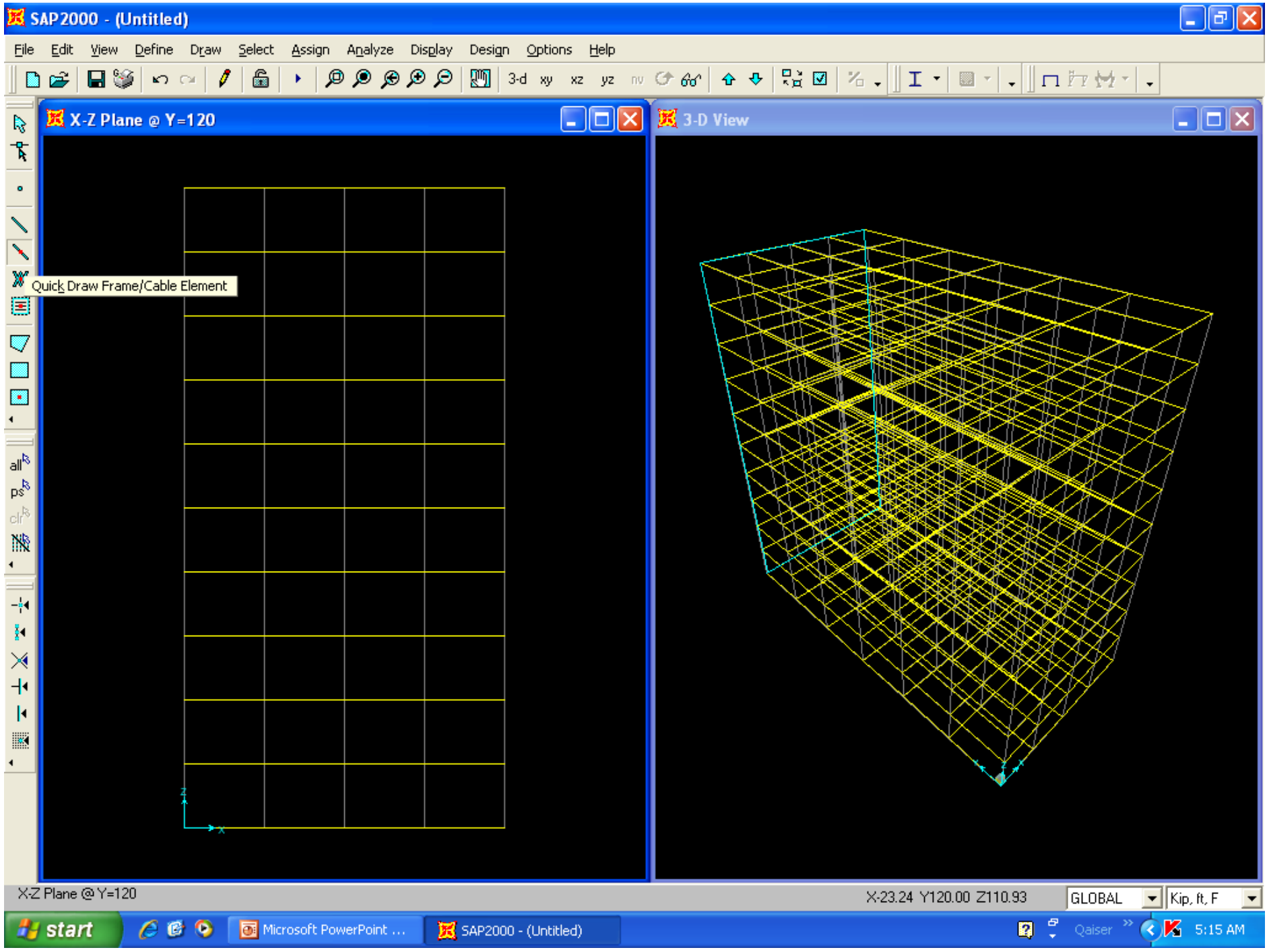

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
X-Y Plane @ Z=120
3-D View
X-Y Plane @ Z=120
X-7.10 Y124.30 Z120.00
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:06 AM

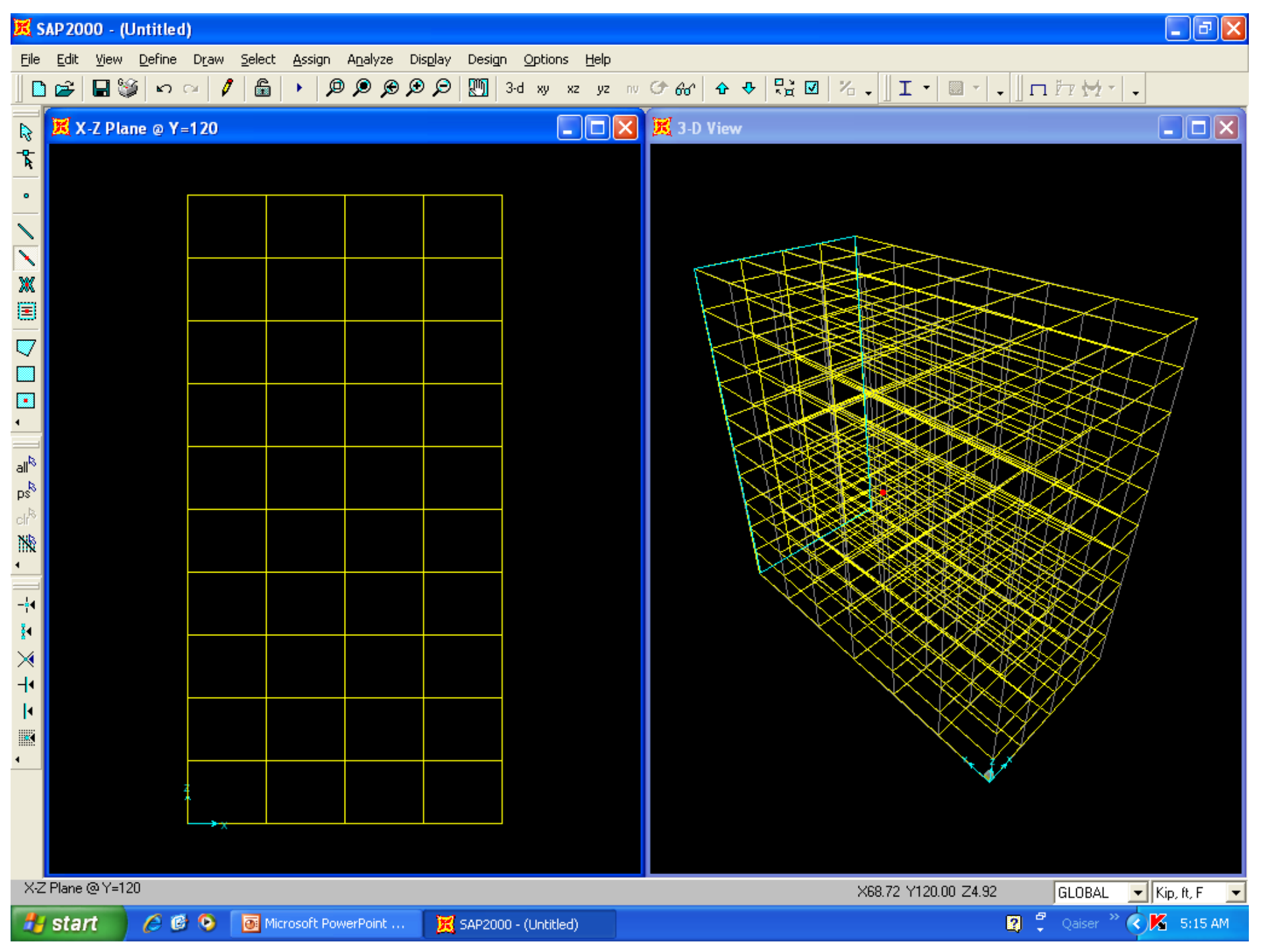

SAP2000 - (Untitled)
File
Edit
View
Define
Draw
Select
Assign
Analyze
Display
Design
Options
Help
Undo Line Object Add Ctrl+Z
Redo
Cut Ctrl+X
Copy Ctrl+C
Paste... Ctrl+V
Delete Delete
Add to Model From Template... Ctrl+T
Interactive Database Editing...
Add Grid at Selected Points...
Replicate... Ctrl+R
Extrude
Move... Ctrl+M
Merge Joints...
Align Points...
Divide Frames...
Mesh Curved Frame/Cable...
Join Frames
Trim/Extend Frames...
Mesh Areas...
Mesh Solids...
Disconnect
Connect
Show Duplicates
Merge Duplicates...
Change Labels...
3-D View
35 Points 58 Lines Selected
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
5:07 AM

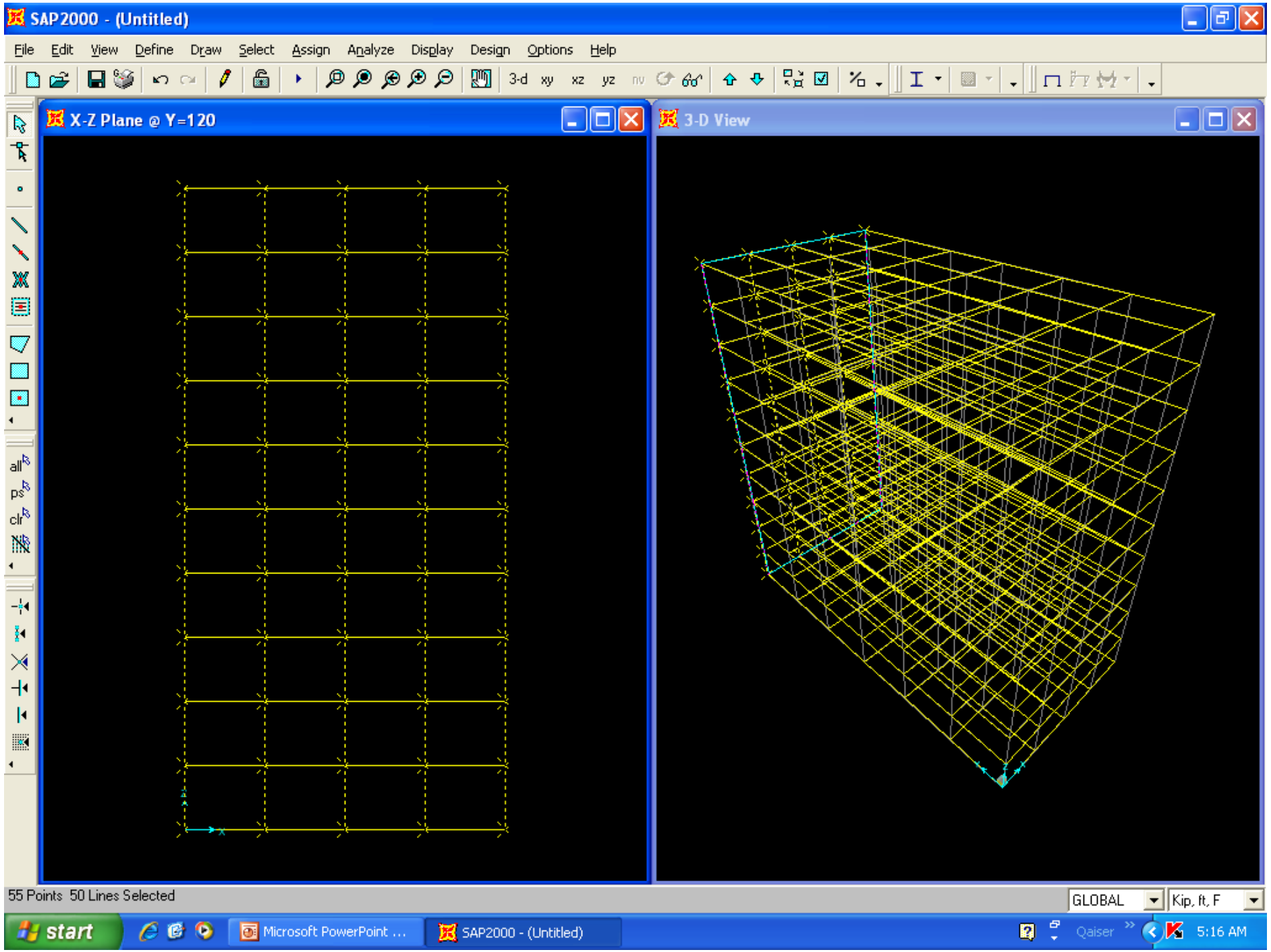

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
X-Y Plane @ Z=120
3-D View
Replicate
Linear
Radial
Mirror
Increments
dx 0.
dy 0.
dz -12
Replicate Options
Modify/Show Replicate Options...
7 of 7 active boxes are selected
Delete Original Objects
Increment Data
Number 10
OK
Cancel
35 Points 58 Lines Selected
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
5:08 AM

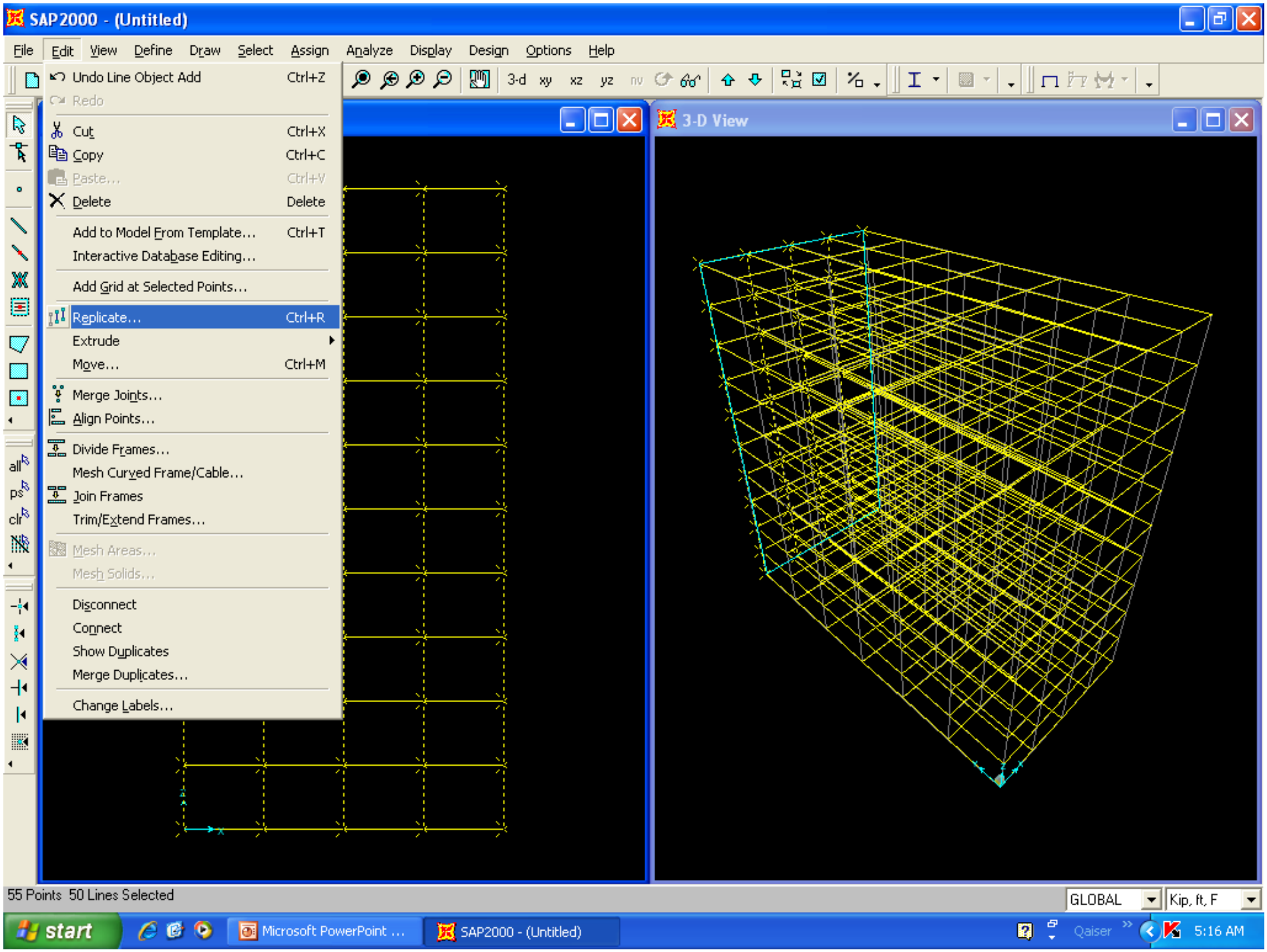

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
X-Y Plane @ Z=120
3-D View
X-Y Plane @ Z=120
X76.55 Y30.27 Z120.00
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:08 AM

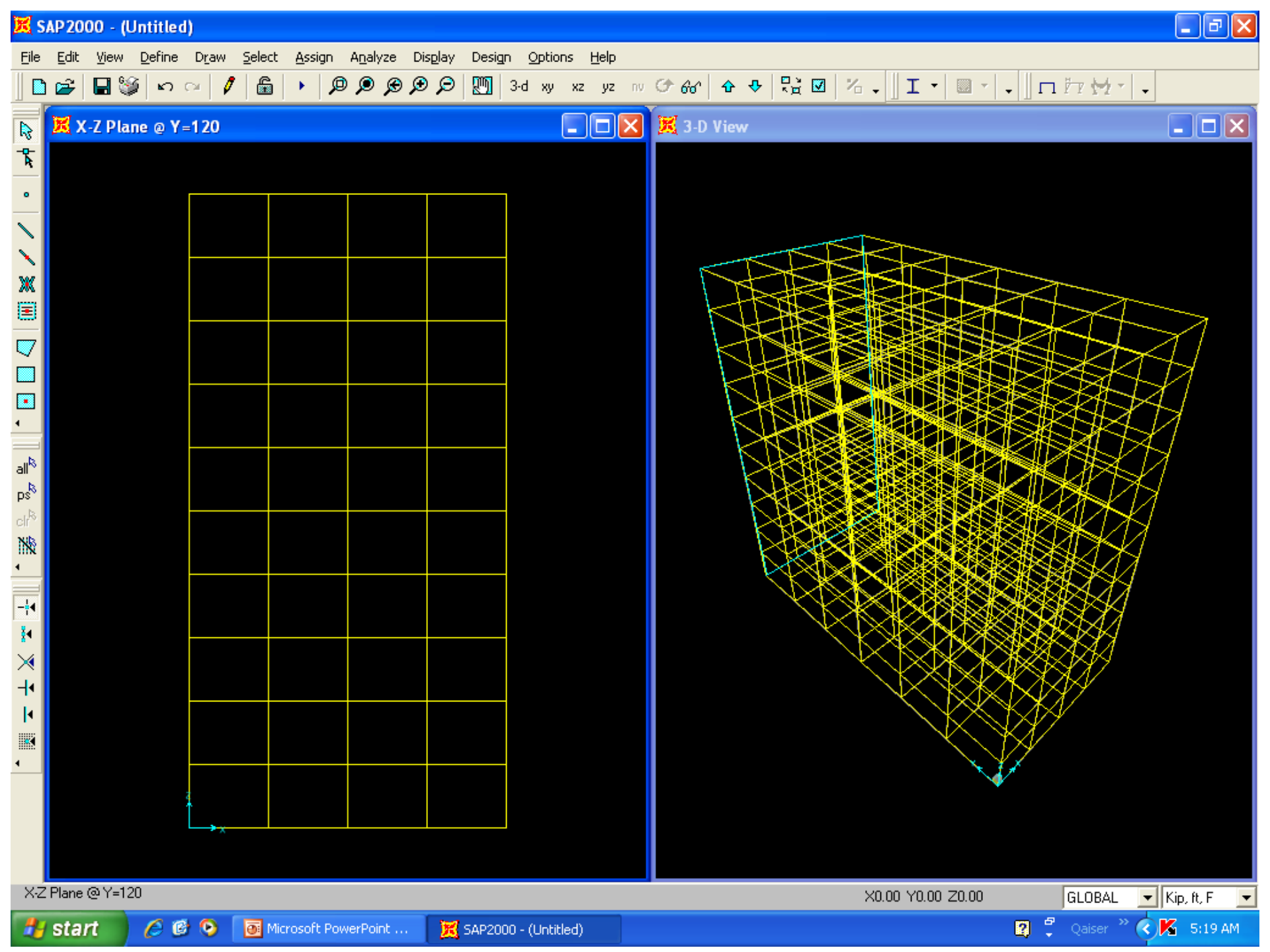

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
X-Z Plane @ Y=120
3-D View
all
ps
clr
X-Z Plane @ Y=120
X80.01 Y120.00 Z7.22
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:13 AM

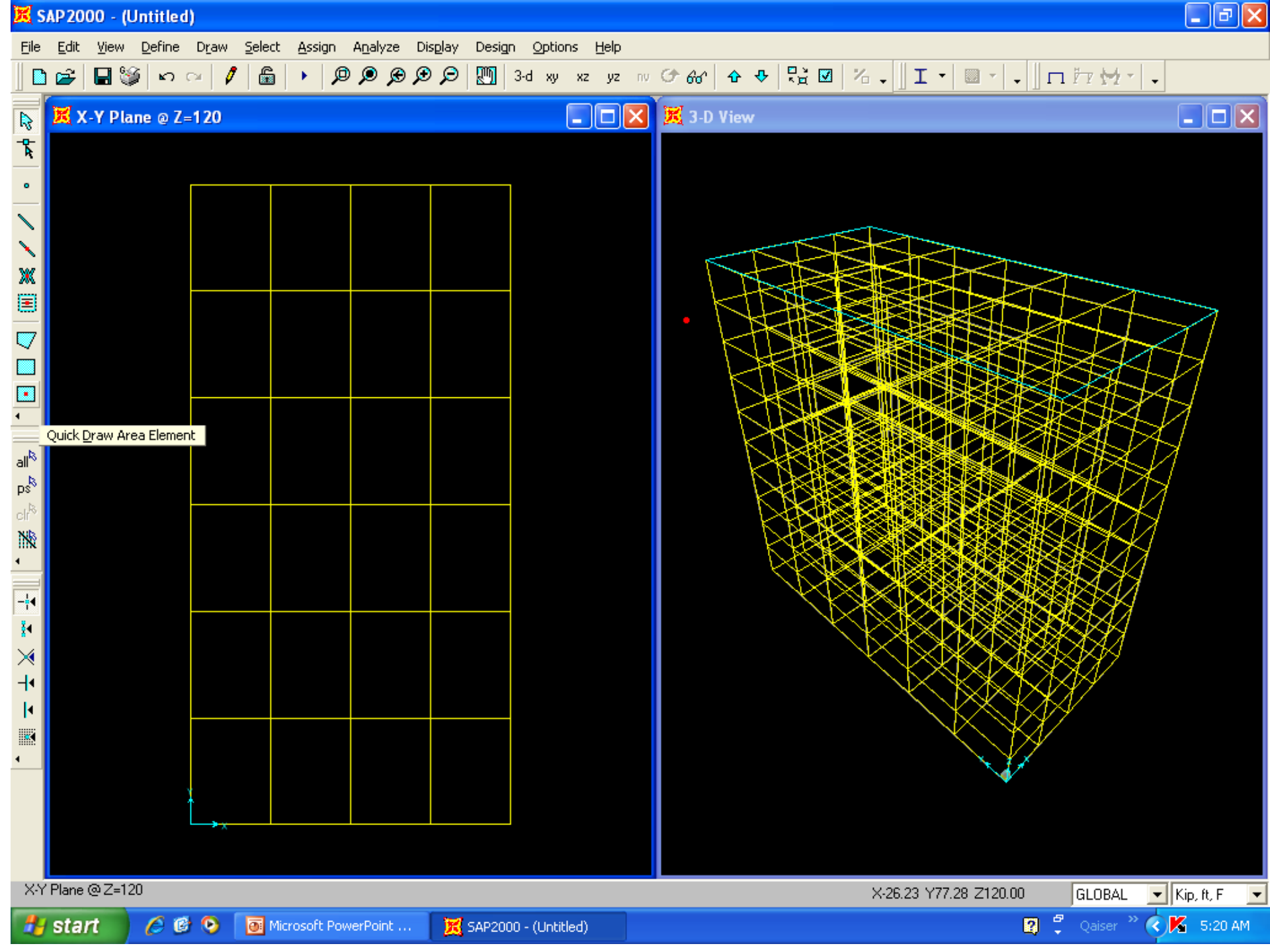

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
X-Z Plane @ Y=120
Quick Draw Frame/Cable Element
3-D View
all
ps
clr
X-Z Plane @ Y=120
X-23.24 Y120.00 Z110.93
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:15 AM

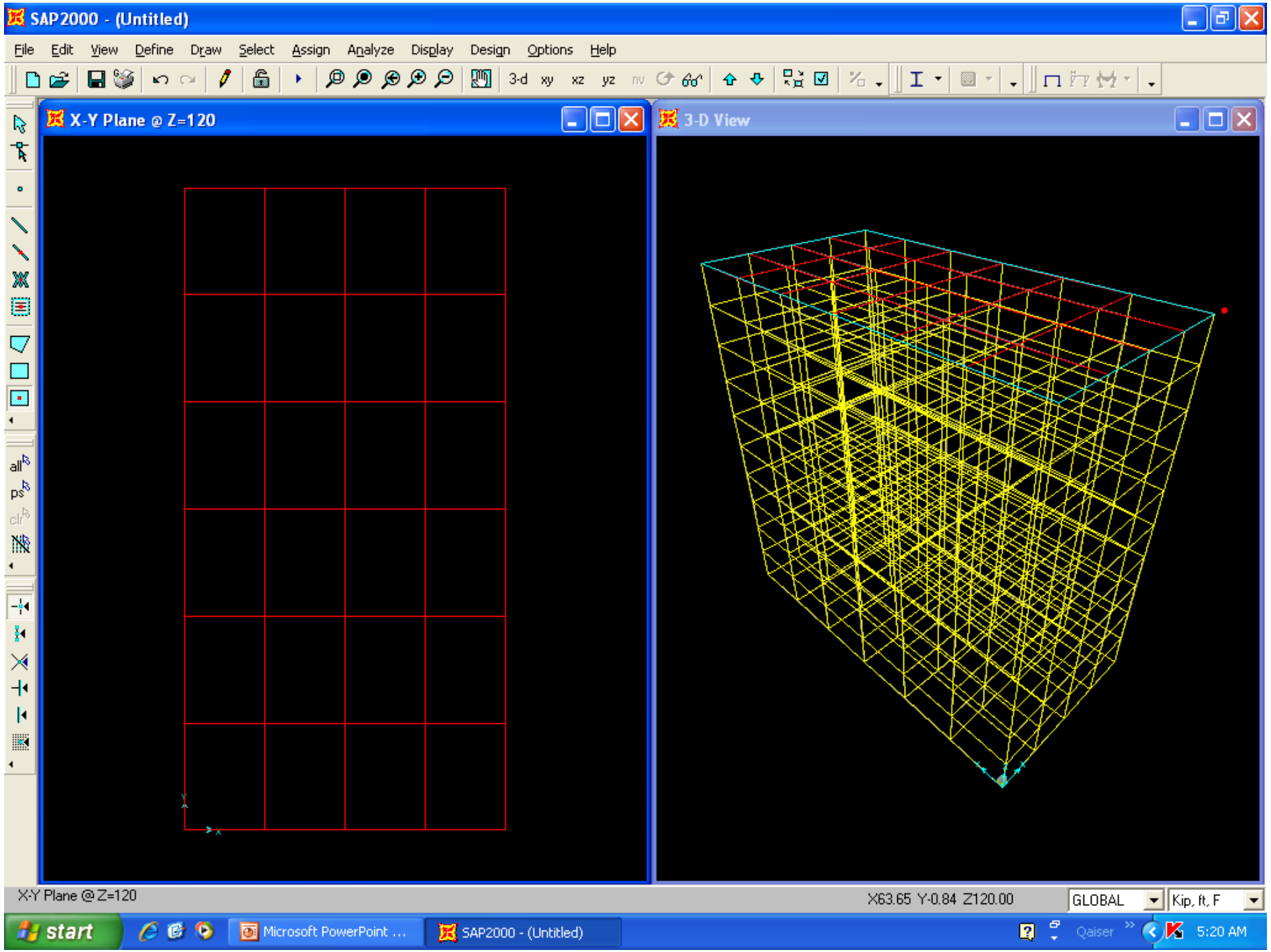

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
X-Z Plane @ Y=120
3-D View
X-Z Plane @ Y=120
X68.72 Y120.00 Z4.92
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:15 AM

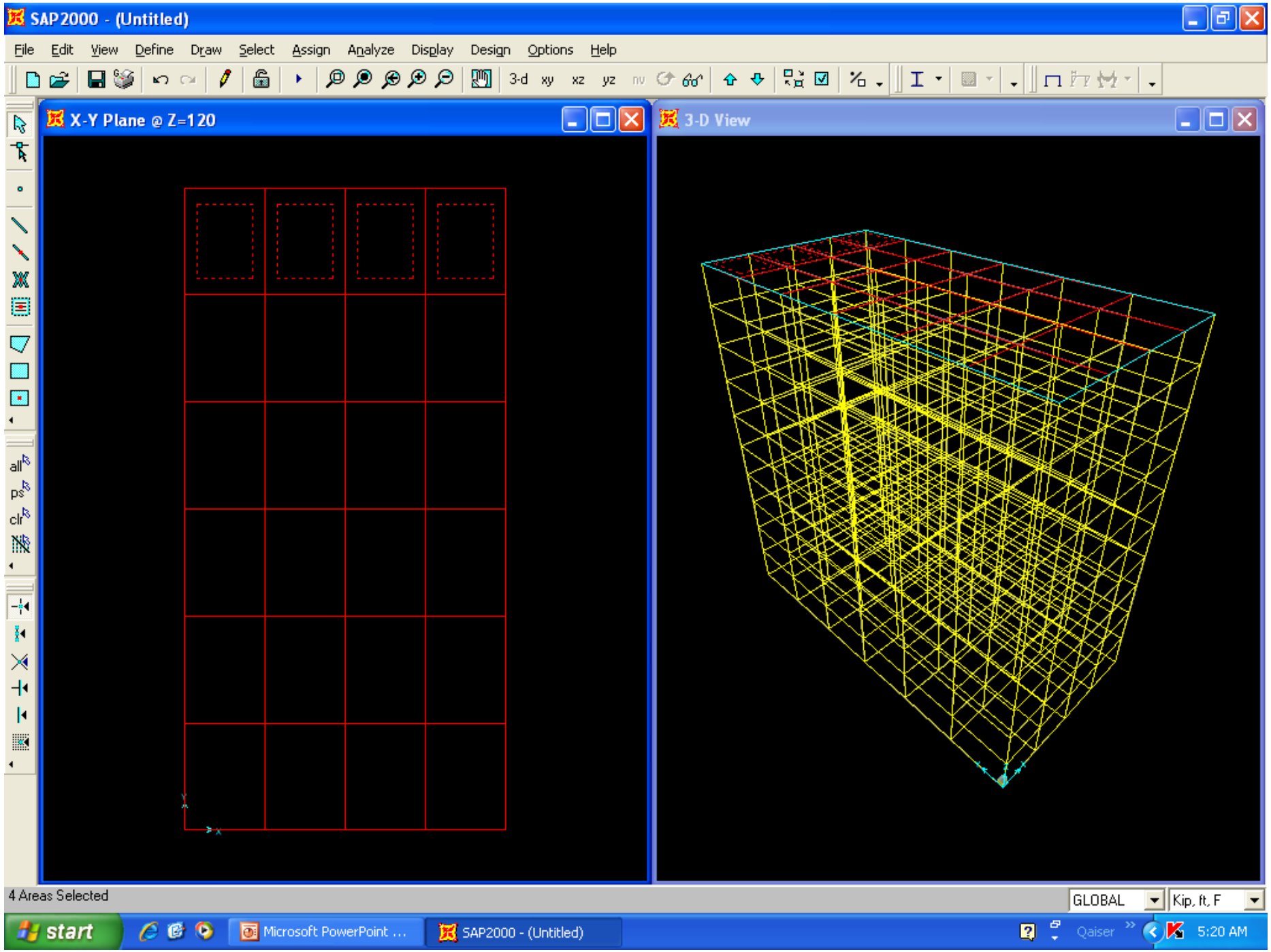

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
X-Z Plane @ Y=120
3-D View
all ps clr
55 Points 50 Lines Selected
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:16 AM

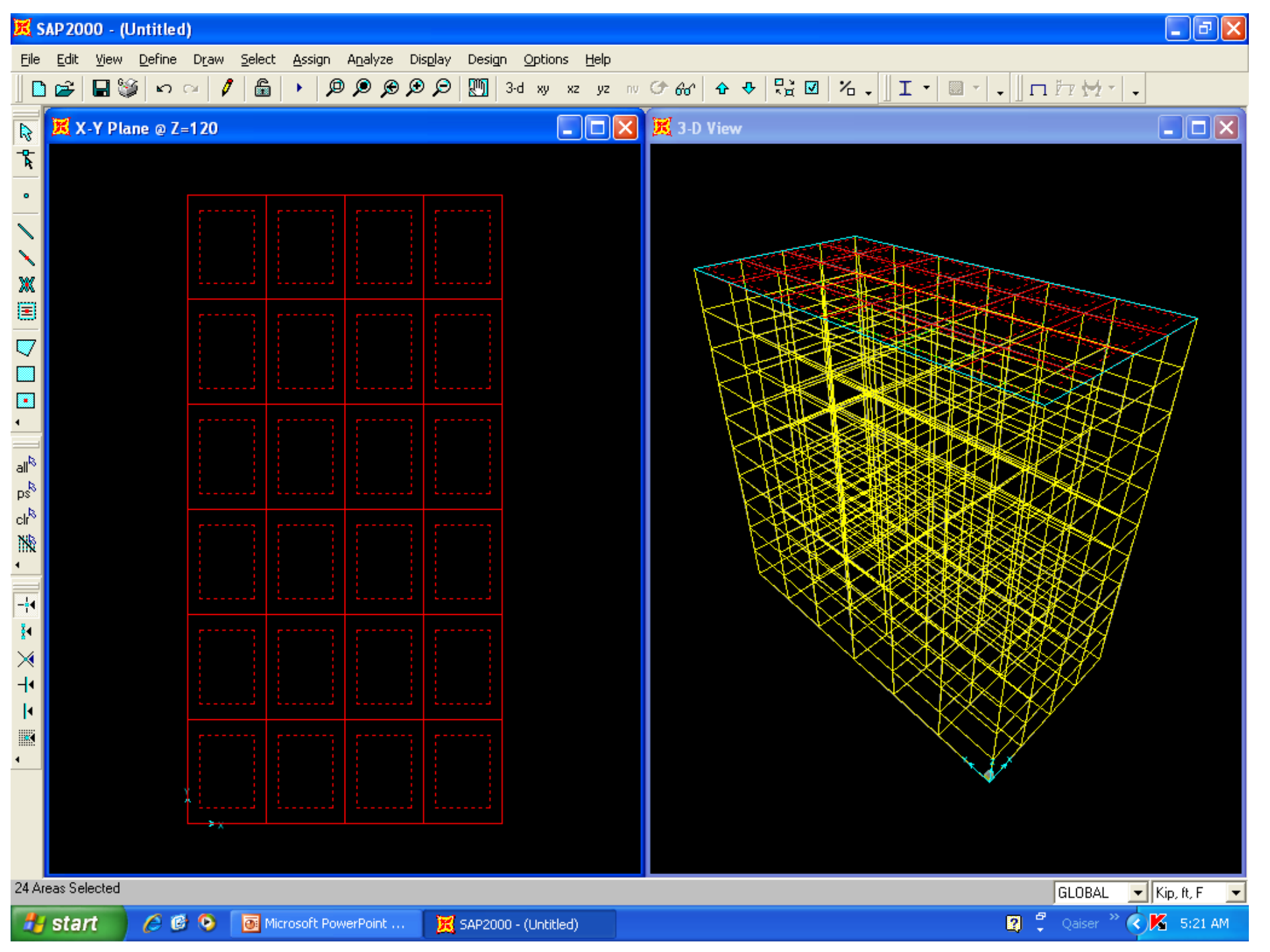

SAP2000 - (Untitled)
File
Edit
View
Define
Draw
Select
Assign
Analyze
Display
Design
Options
Help
Undo Line Object Add Ctrl+Z
Redo
Cut Ctrl+X
Copy Ctrl+C
Paste... Ctrl+V
Delete Delete
Add to Model From Template... Ctrl+T
Interactive Database Editing...
Add Grid at Selected Points...
Replicate... Ctrl+R
Extrude
Move... Ctrl+M
Merge Joints...
Align Points...
Divide Frames...
Mesh Curved Frame/Cable...
Join Frames
Trim/Extend Frames...
Mesh Areas...
Mesh Solids...
Disconnect
Connect
Show Duplicates
Merge Duplicates...
Change Labels...
3-D View
55 Points 50 Lines Selected
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
5:16 AM

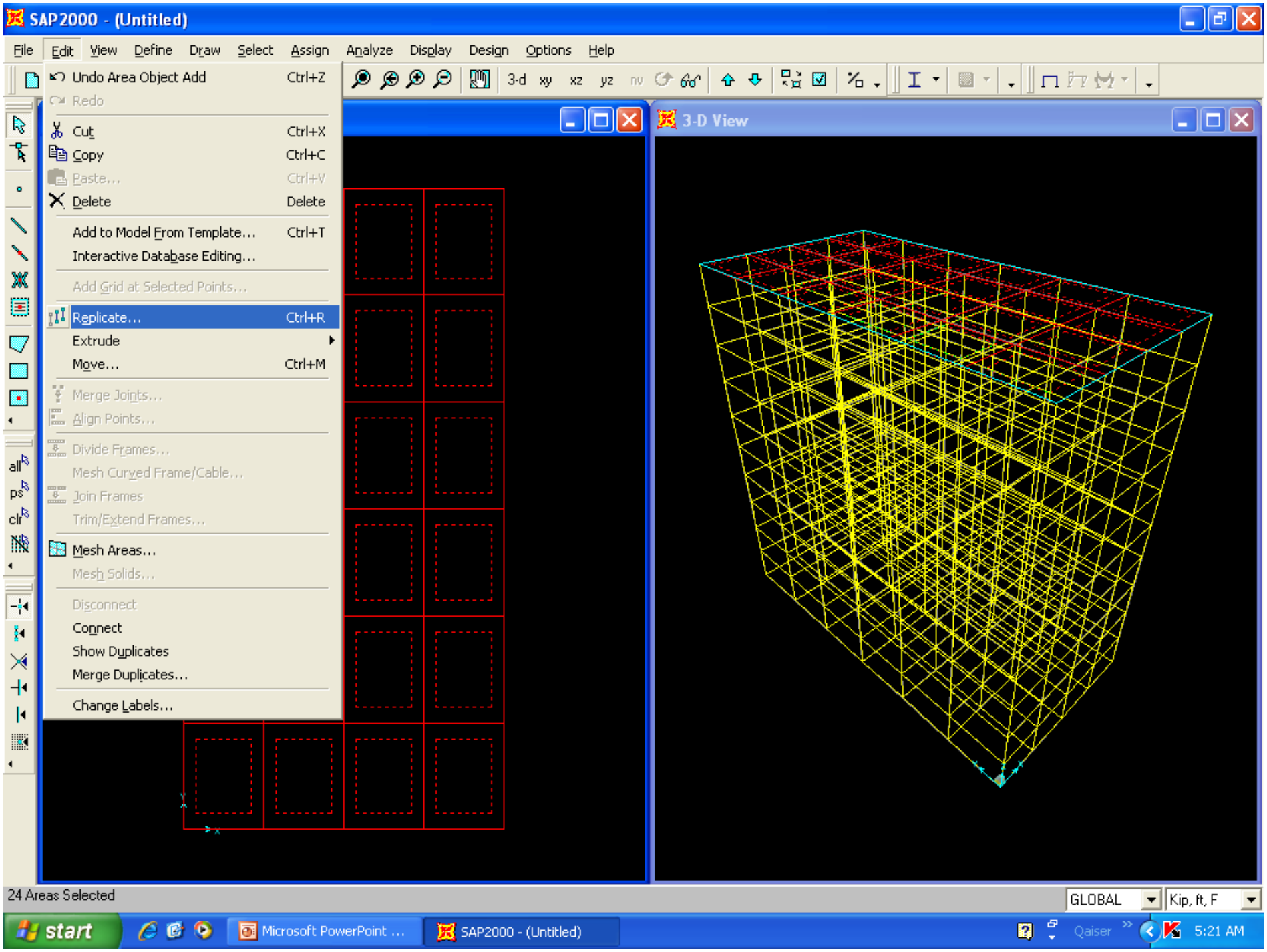

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
X-Z Plane @ Y=120
3-D View
all
ps
clr
X-Z Plane @ Y=120
X0.00 Y0.00 Z0.00
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:19 AM

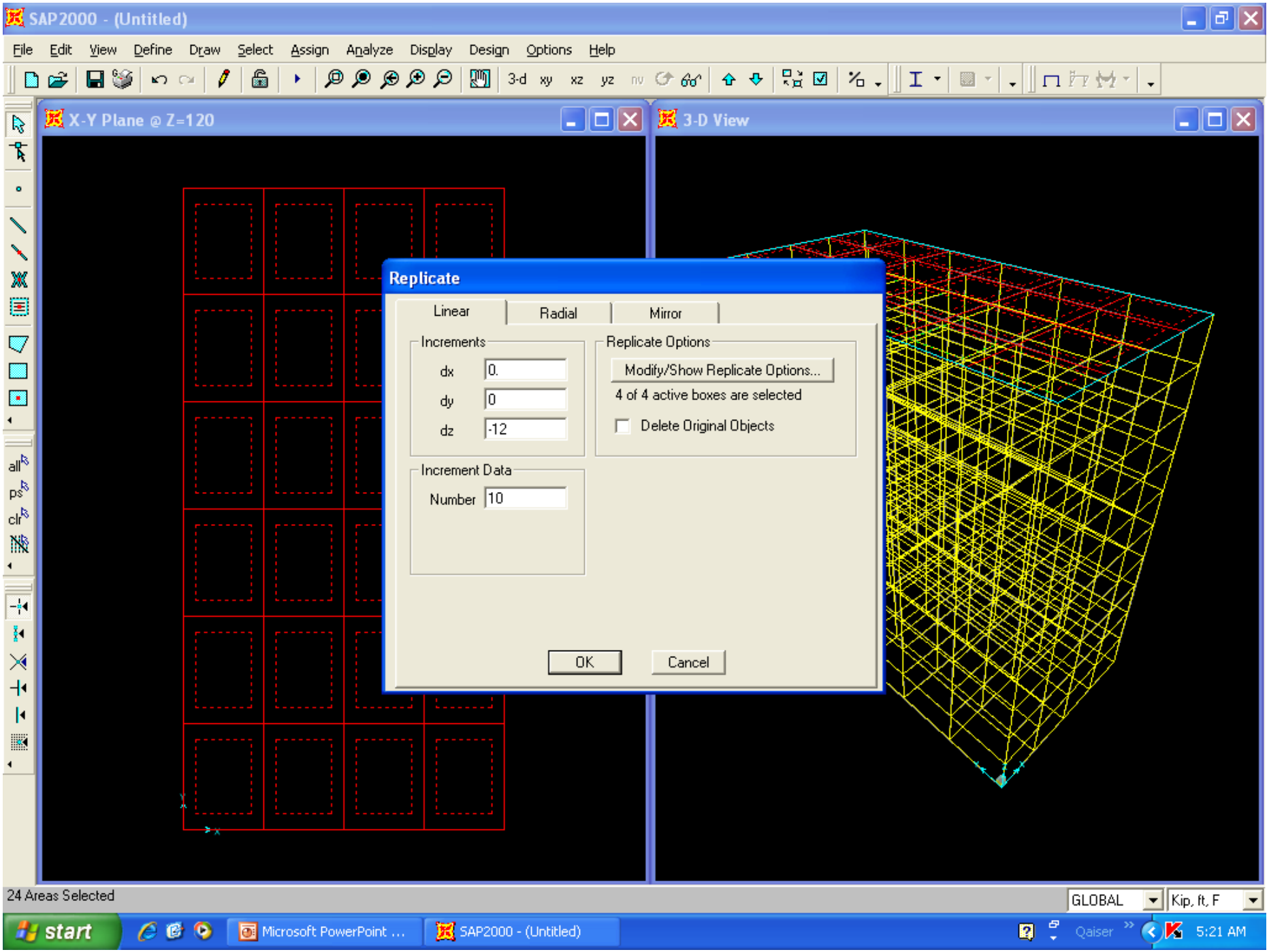

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
X-Y Plane @ Z=120
3-D View
Quick Draw Area Element
all
ps
X-Y Plane @ Z=120
X-26.23 Y77.28 Z120.00
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:20 AM

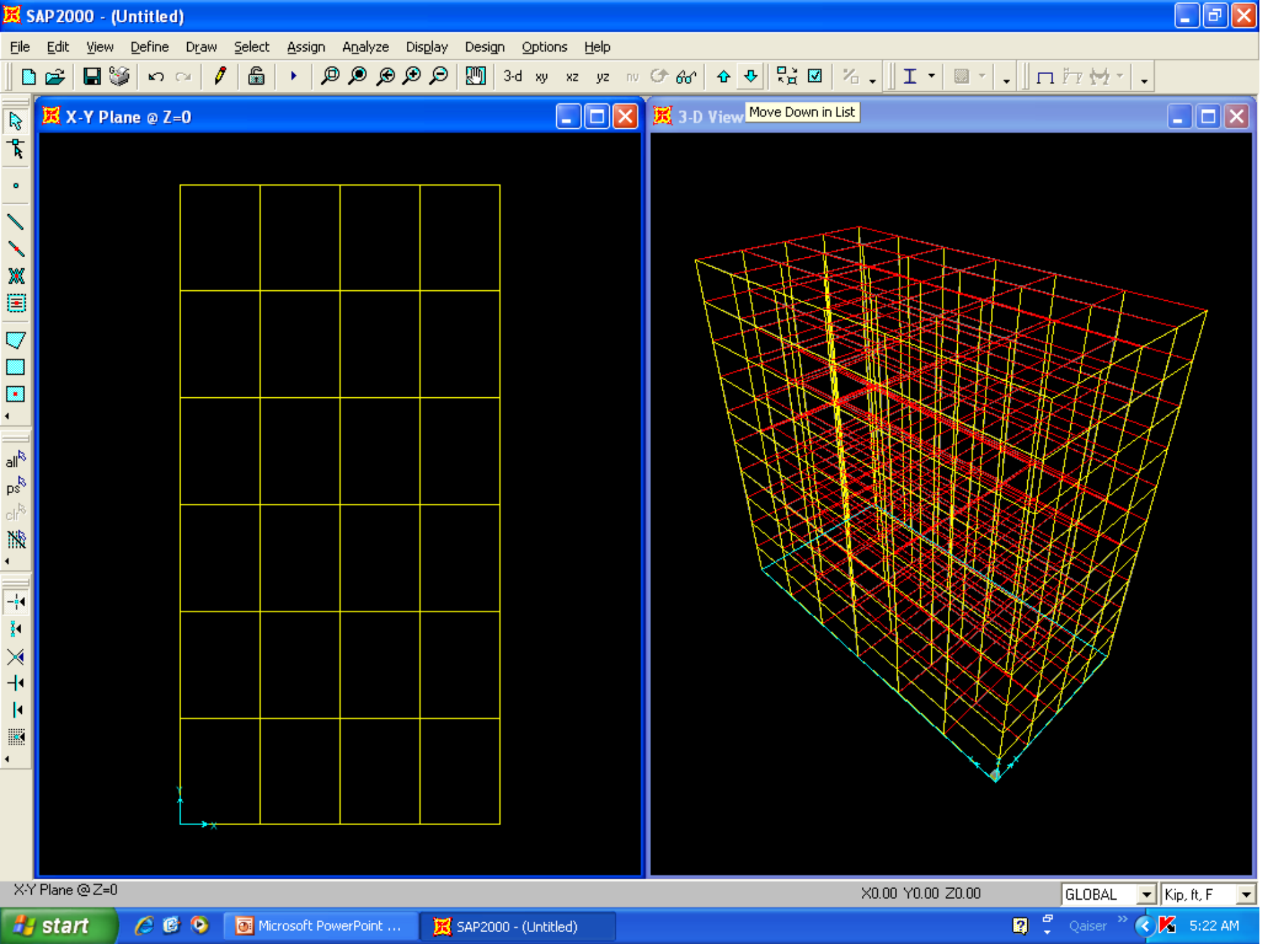

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
X-Y Plane @ Z=120
3-D View
X-Y Plane @ Z=120
X63.65 Y-0.84 Z120.00
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:20 AM

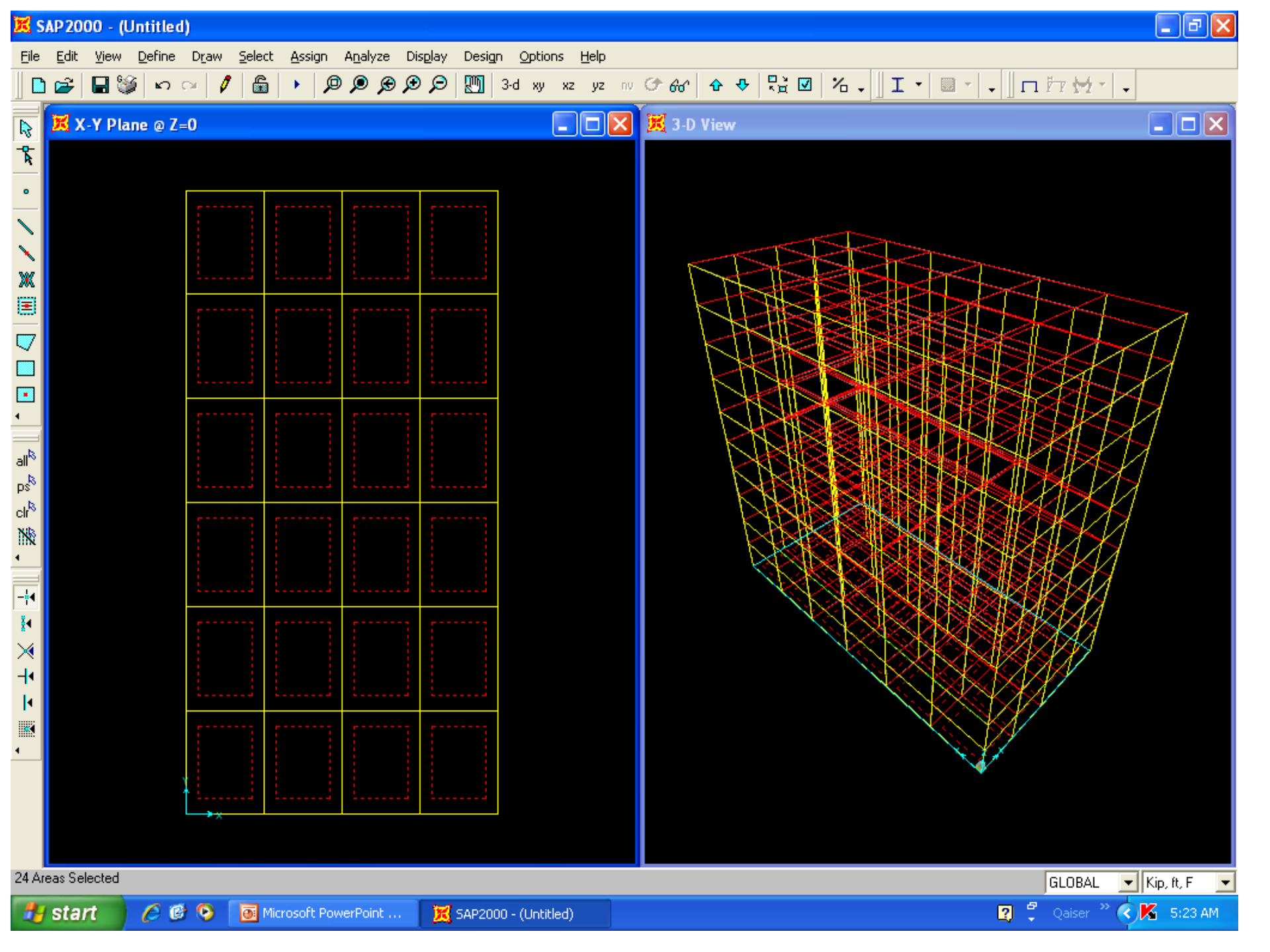

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz
X-Y Plane @ Z=120
3-D View
all
ps
clr
4 Areas Selected
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:20 AM

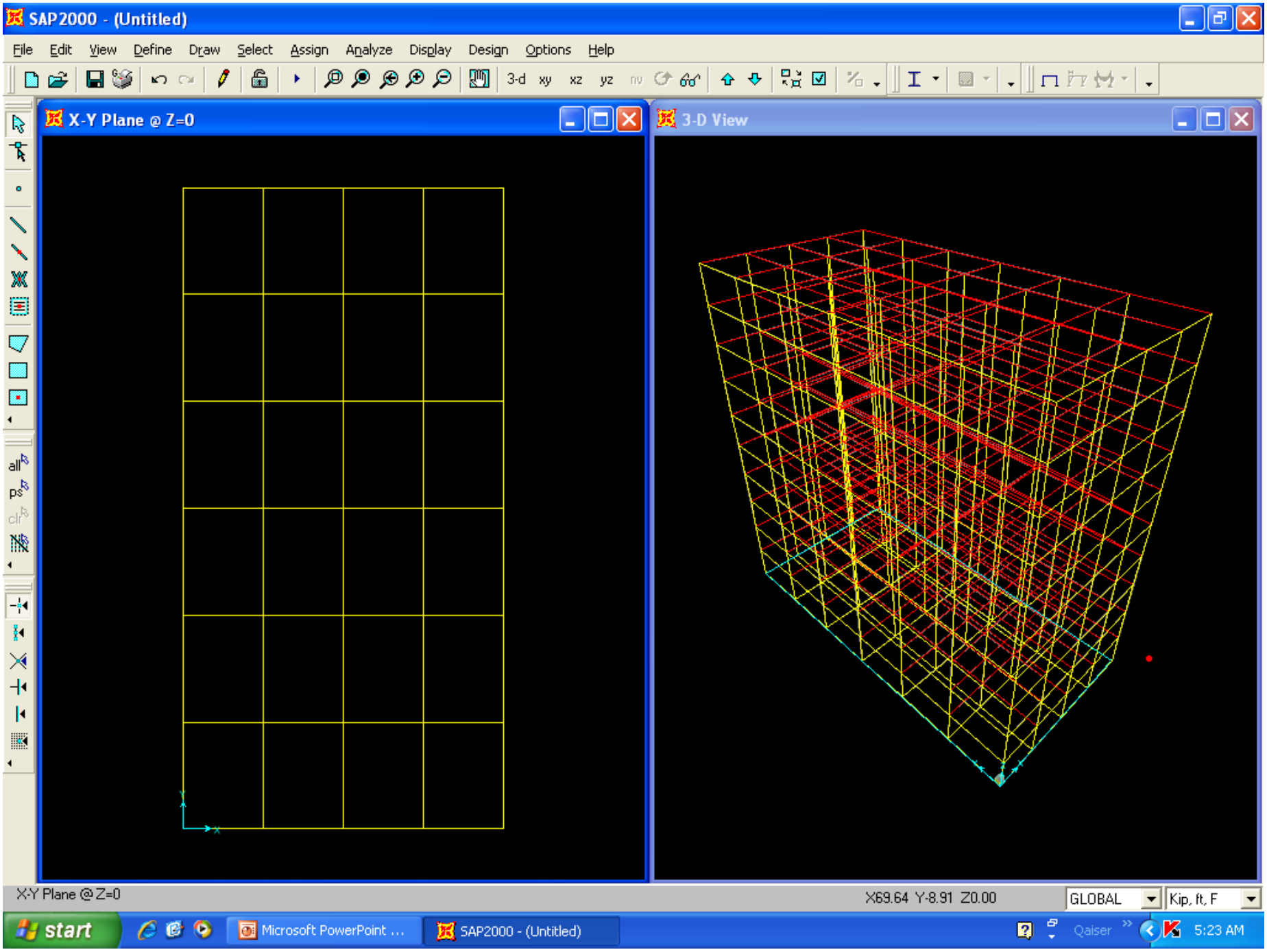

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
X-Y Plane @ Z=120
3-D View
all
ps
clr
24 Areas Selected
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:21 AM

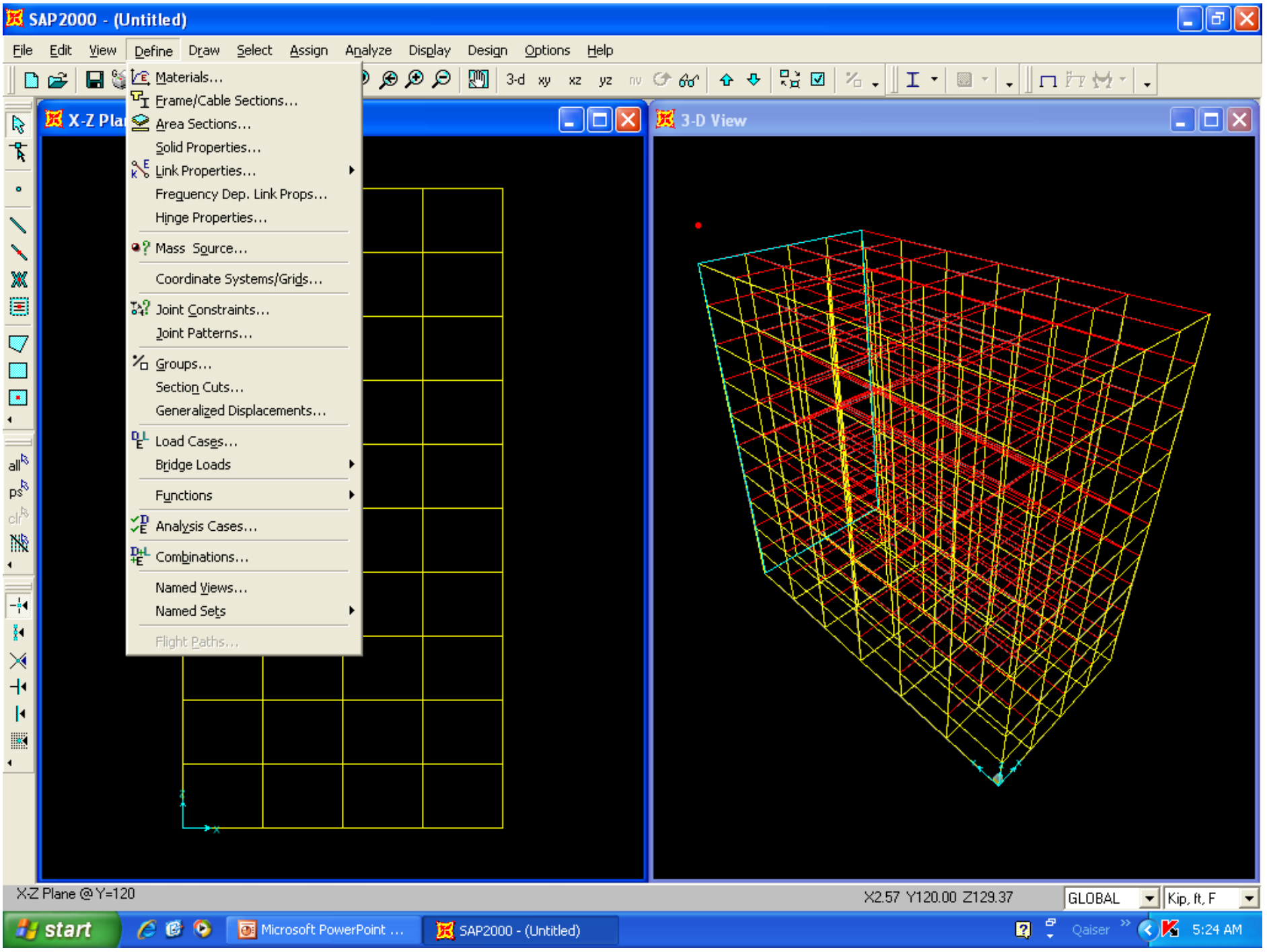

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Undo Area Object Add Ctrl+Z
Redo
Cut Ctrl+X
Copy Ctrl+C
Paste... Ctrl+V
Delete Delete
Add to Model From Template... Ctrl+T
Interactive Database Editing...
Add Grid at Selected Points...
Replicate... Ctrl+R
Extrude
Move... Ctrl+M
Merge Joints...
Align Points...
Divide Frames...
Mesh Curved Frame/Cable...
Join Frames
Trim/Extend Frames...
Mesh Areas...
Mesh Solids...
Disconnect
Connect
Show Duplicates
Merge Duplicates...
Change Labels...
3-D View
24 Areas Selected
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
5:21 AM

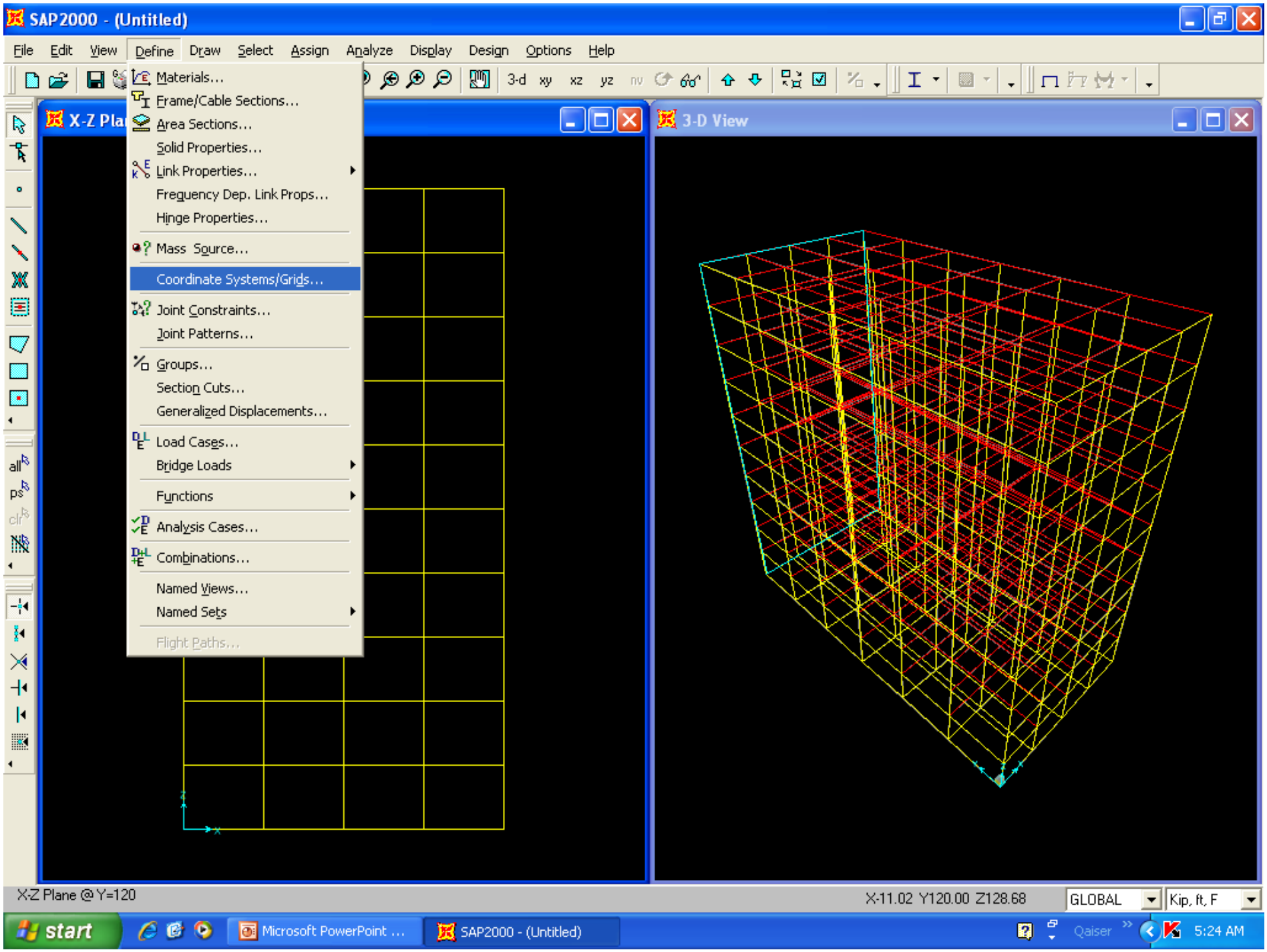

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz
X-Y Plane @ Z=120
3-D View
Replicate
Linear
Radial
Mirror
Increments
dx 0.
dy 0
dz -12
Replicate Options
Modify/Show Replicate Options...
4 of 4 active boxes are selected
Delete Original Objects
Increment Data
Number 10
OK
Cancel
24 Areas Selected
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:21 AM

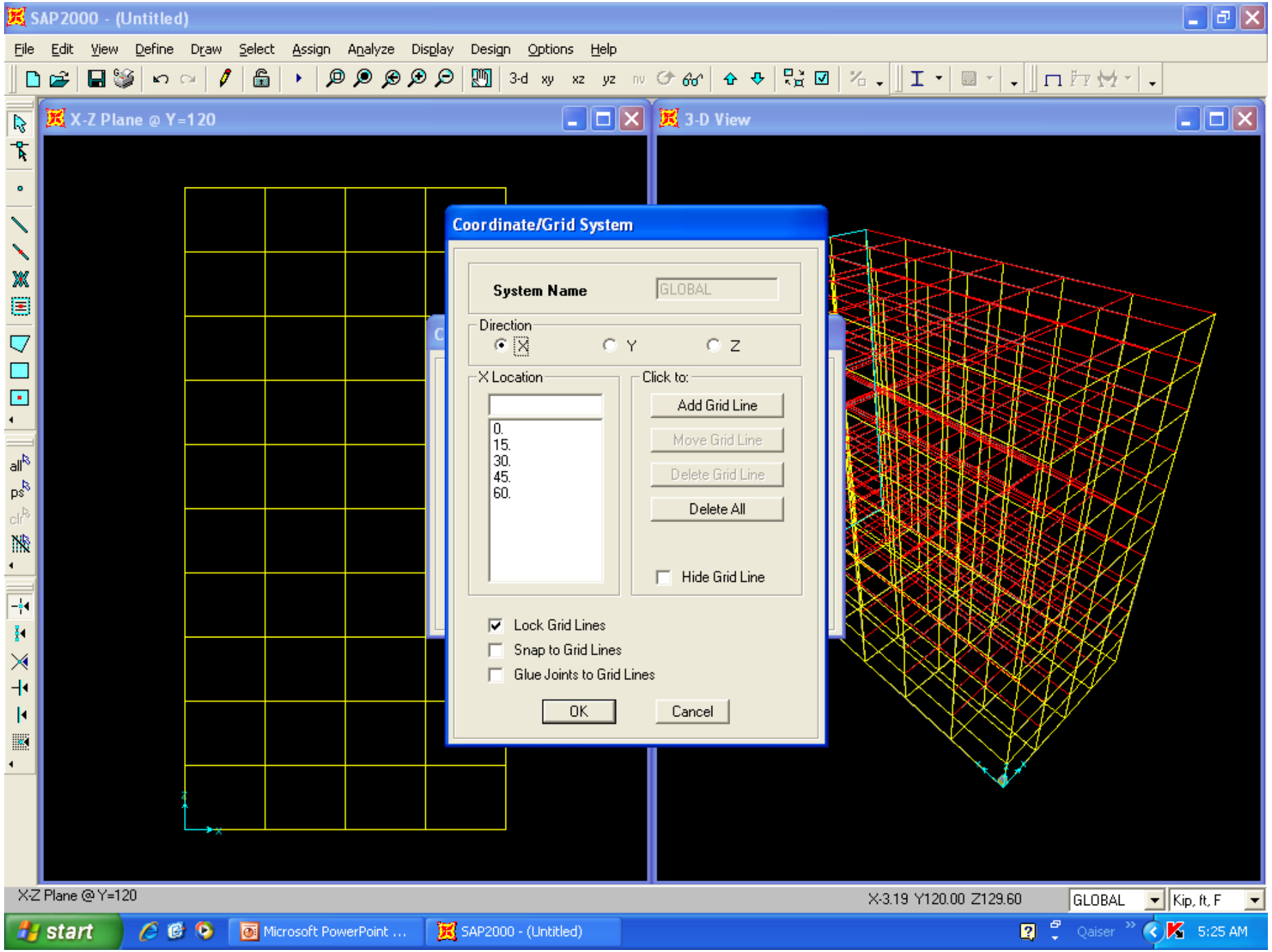

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
X-Y Plane @ Z=0
3-D View
Move Down in List
X-Y Plane @ Z=0
X0.00 Y0.00 Z0.00
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:22 AM

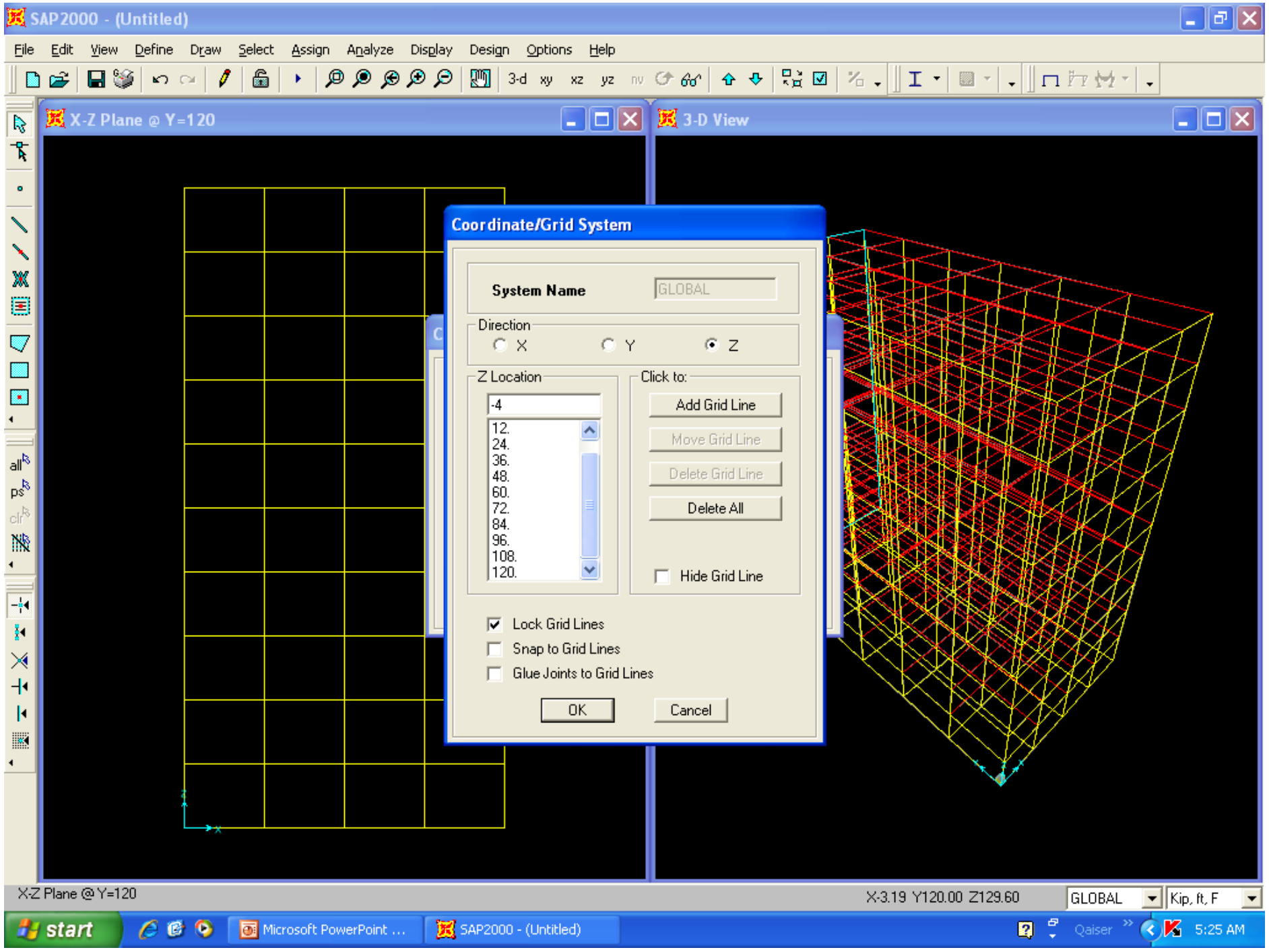

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
X-Y Plane @ Z=0
3-D View
all
ps
clr
24 Areas Selected
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:23 AM

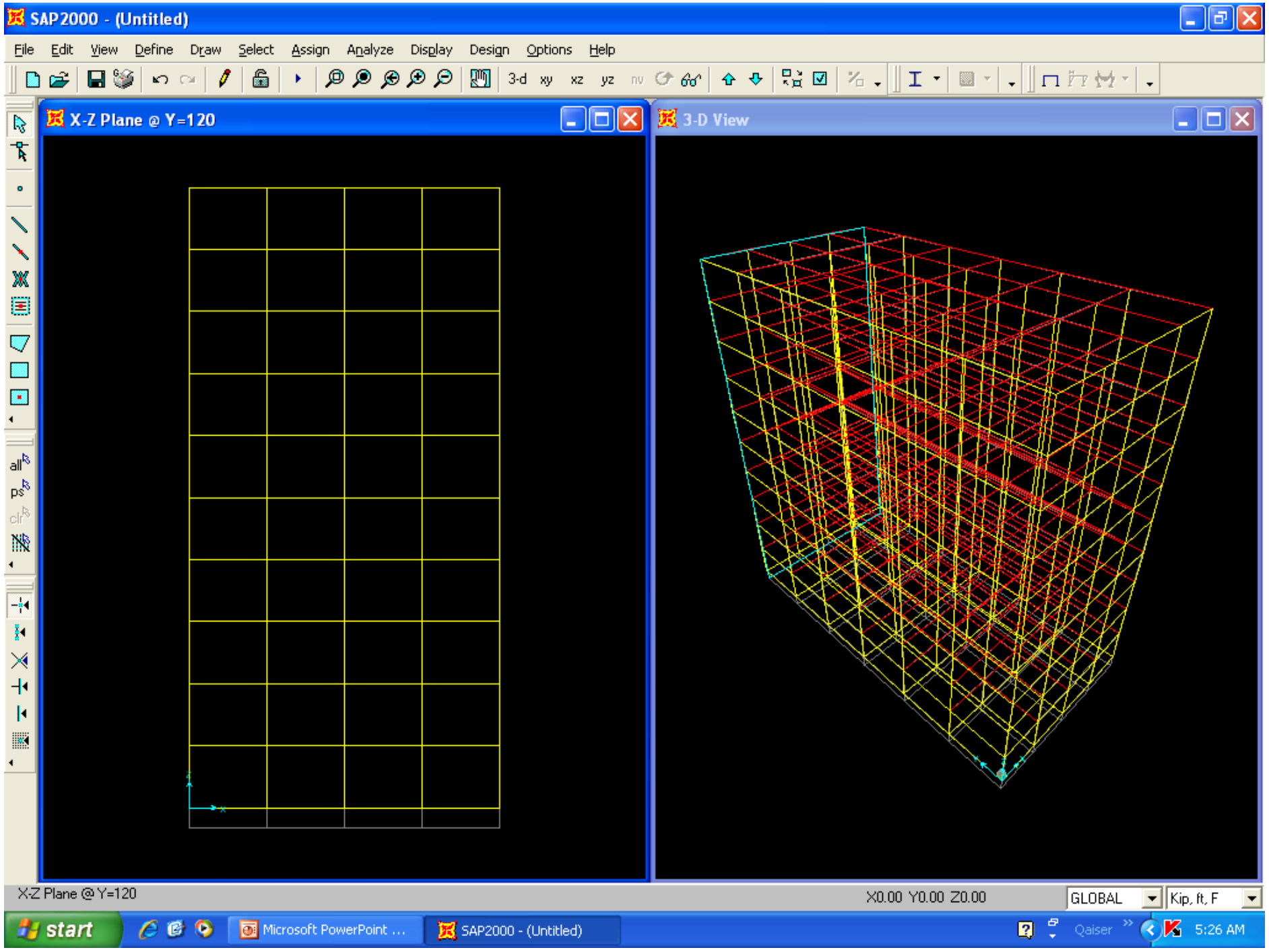

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
X-Y Plane @ Z=0
3-D View
X-Y Plane @ Z=0
X69.64 Y-8.91 Z0.00
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:23 AM

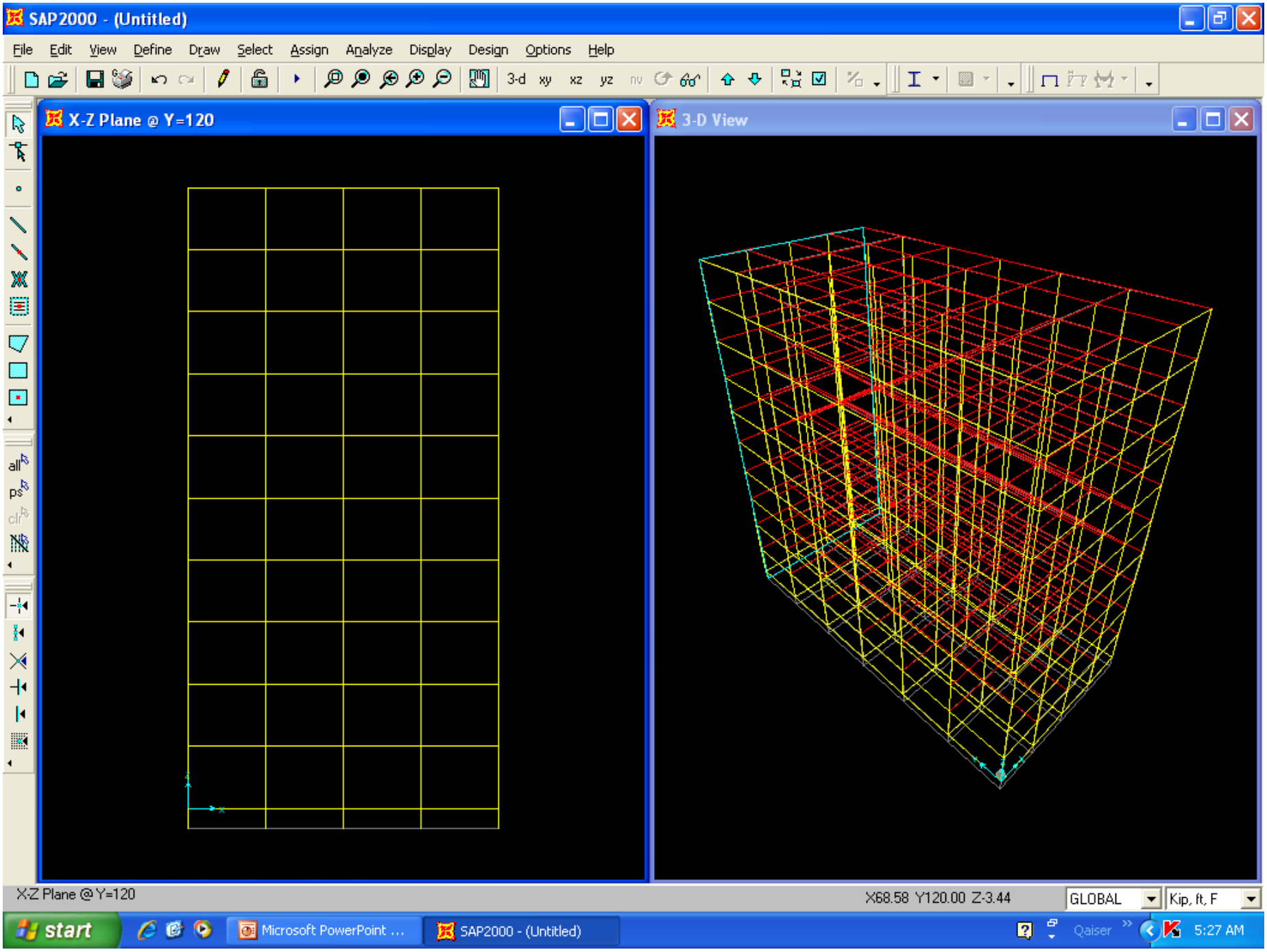

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Materials...
Frame/Cable Sections...
Area Sections...
Solid Properties...
Link Properties...
Frequency Dep. Link Props...
Hinge Properties...
Mass Source...
Coordinate Systems/Grids...
Joint Constraints...
Joint Patterns...
Groups...
Section Cuts...
Generalized Displacements...
Load Cases...
Bridge Loads
Functions
Analysis Cases...
Combinations...
Named Views...
Named Sets
Flight Paths...
X-Z Pla
3-D View
X-Z Plane @ Y=120
X2.57 Y120.00 Z129.37
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:24 AM

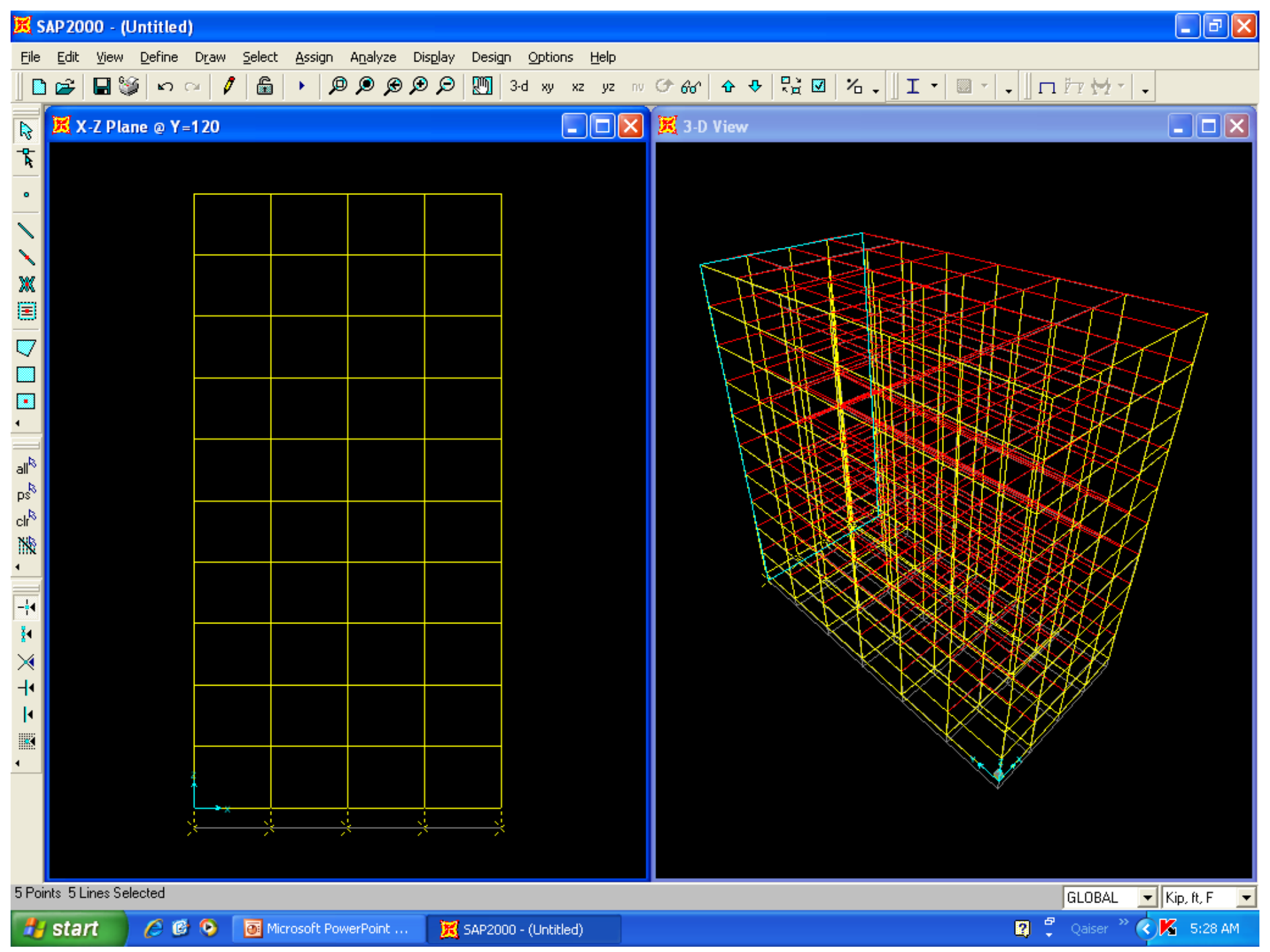

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Materials...
Frame/Cable Sections...
Area Sections...
Solid Properties...
Link Properties...
Frequency Dep. Link Props...
Hinge Properties...
Mass Source...
Coordinate Systems/Grids...
Joint Constraints...
Joint Patterns...
Groups...
Section Cuts...
Generalized Displacements...
Load Cases...
Bridge Loads
Functions
Analysis Cases...
Combinations...
Named Views...
Named Sets
Flight Paths...
X-Z Pla
3-D View
X-Z Plane @ Y=120
X-11.02 Y120.00 Z128.68
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
5:24 AM

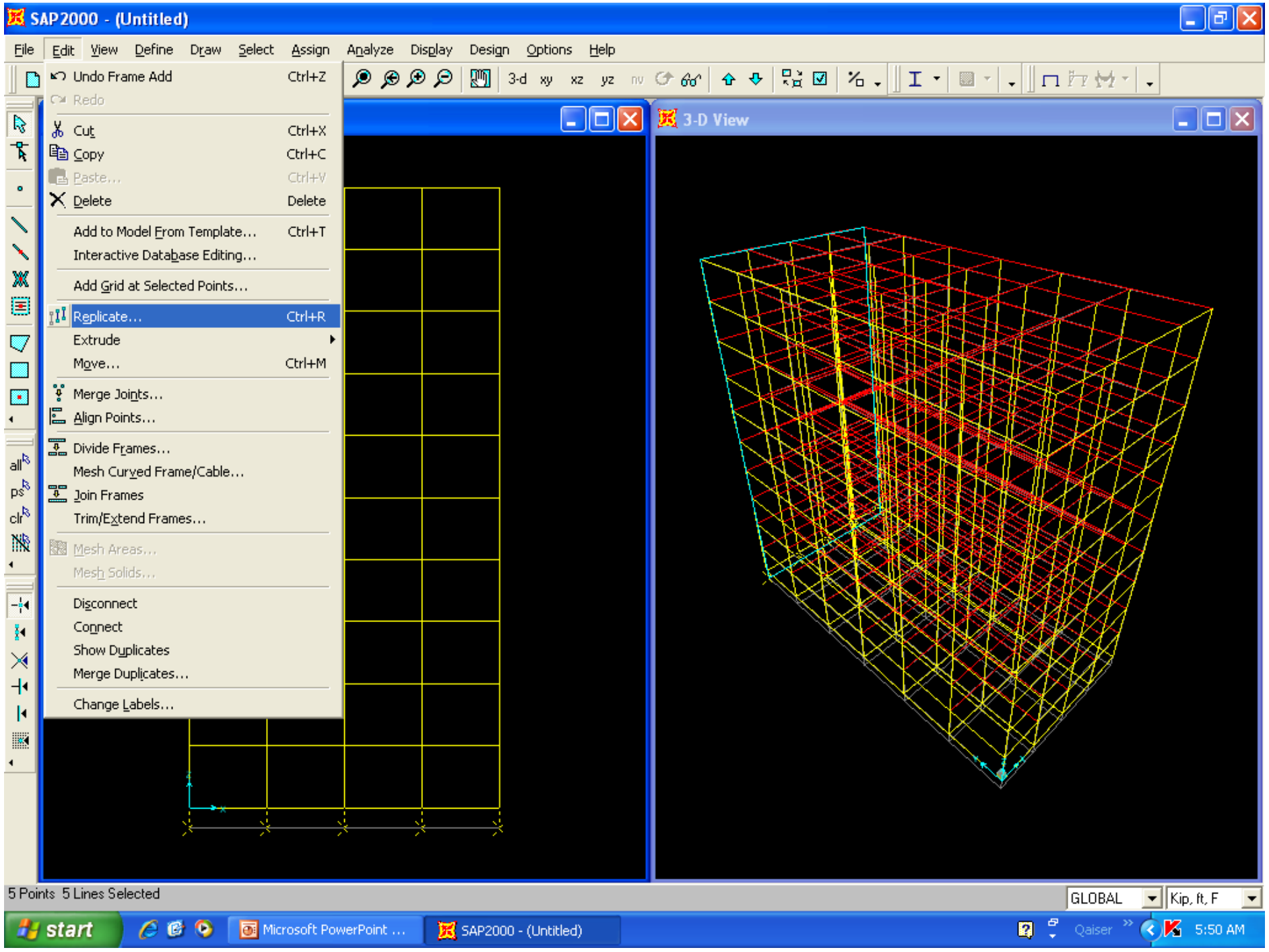

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
X-Z Plane @ Y=120
3-D View
Coordinate/Grid System
System Name
GLOBAL
Direction
X
Y
Z
X Location
0.
15.
30.
45.
60.
Click to:
Add Grid Line
Move Grid Line
Delete Grid Line
Delete All
Hide Grid Line
Lock Grid Lines
Snap to Grid Lines
Glue Joints to Grid Lines
OK
Cancel
X-Z Plane @ Y=120
X-3.19 Y120.00 Z129.60
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:25 AM

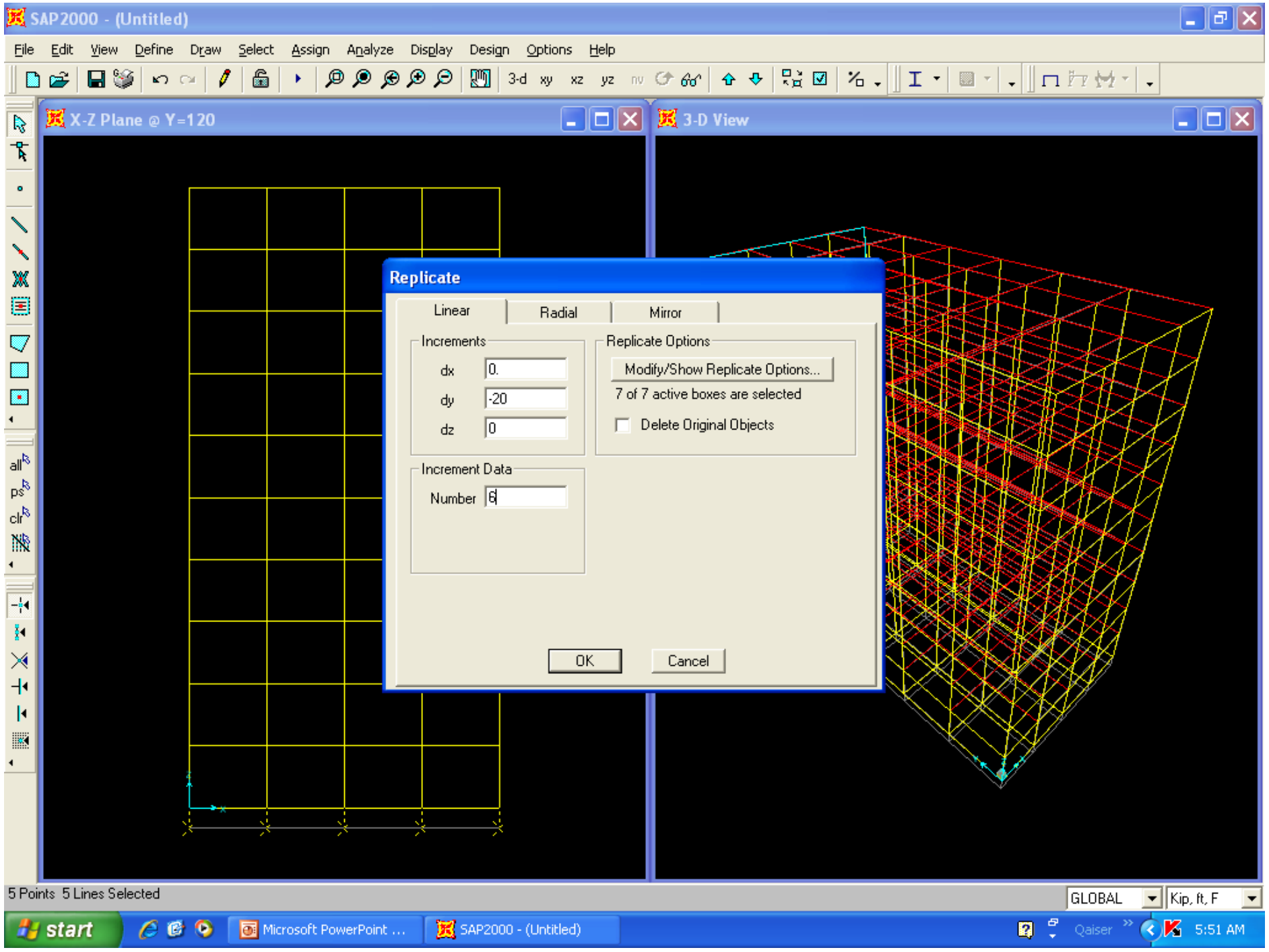

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
X-Z Plane @ Y=120
3-D View
Coordinate/Grid System
System Name
GLOBAL
Direction
X
Y
Z
Z Location
-4
12.
24.
36.
48.
60.
72.
84.
96.
108.
120.
Click to:
Add Grid Line
Move Grid Line
Delete Grid Line
Delete All
Hide Grid Line
Lock Grid Lines
Snap to Grid Lines
Glue Joints to Grid Lines
OK
Cancel
X-Z Plane @ Y=120
X-3.19 Y120.00 Z129.60
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
5:25 AM

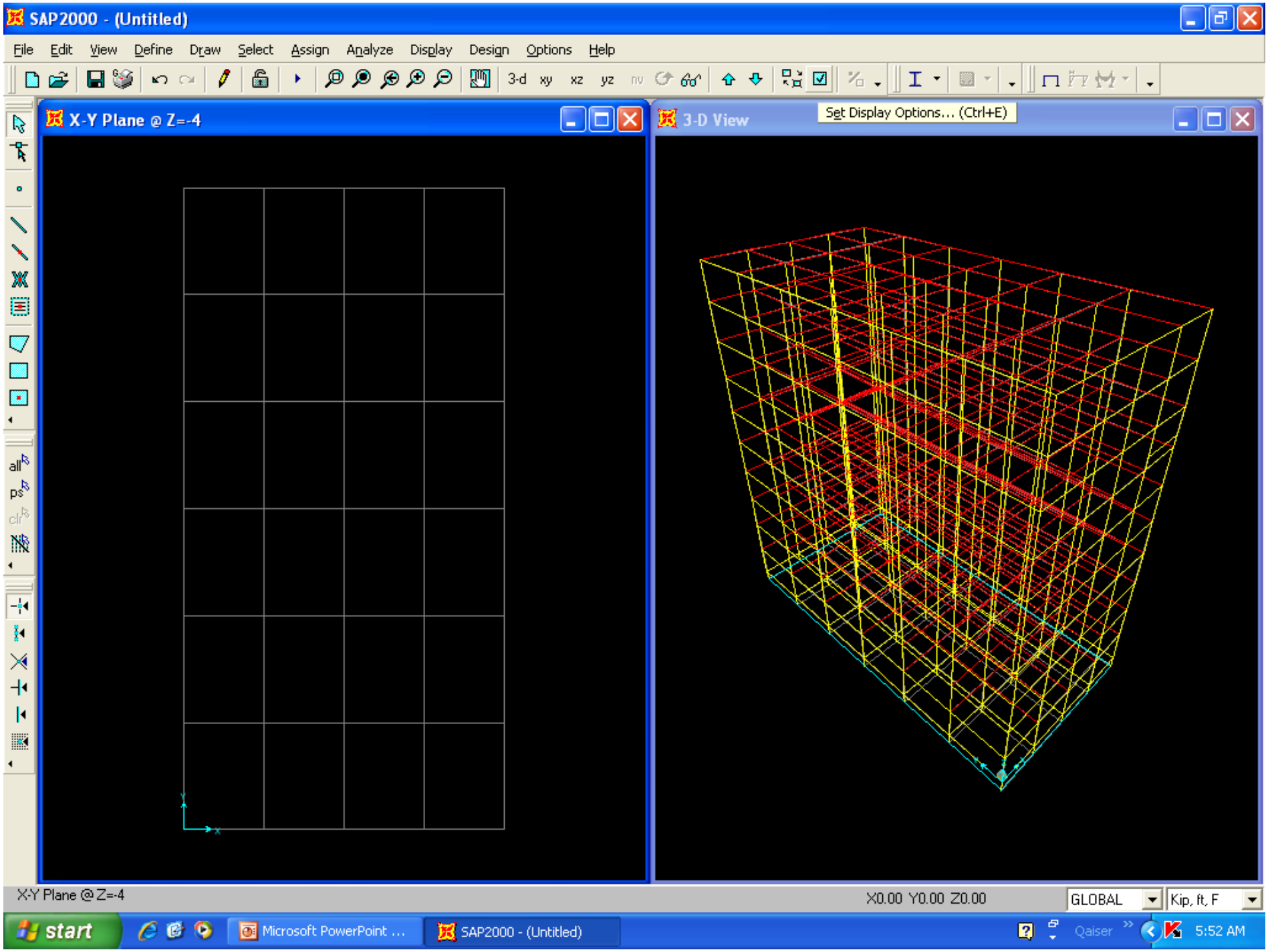

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
X-Z Plane @ Y=120
3-D View
X-Z Plane @ Y=120
X0.00 Y0.00 Z0.00
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:26 AM

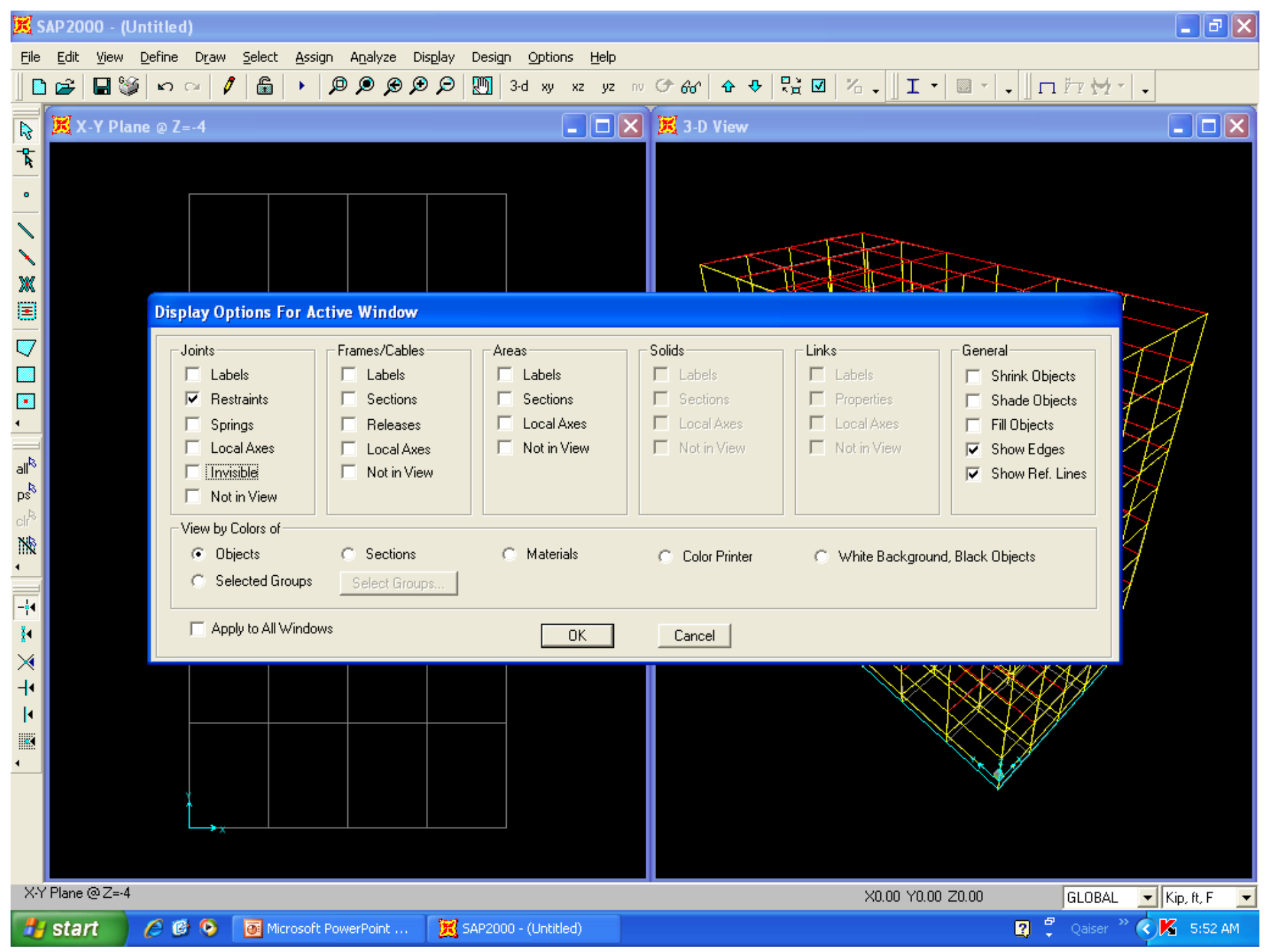

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
X-Z Plane @ Y=120
3-D View
all
ps
clr
X-Z Plane @ Y=120
X68.58 Y120.00 Z-3.44
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:27 AM

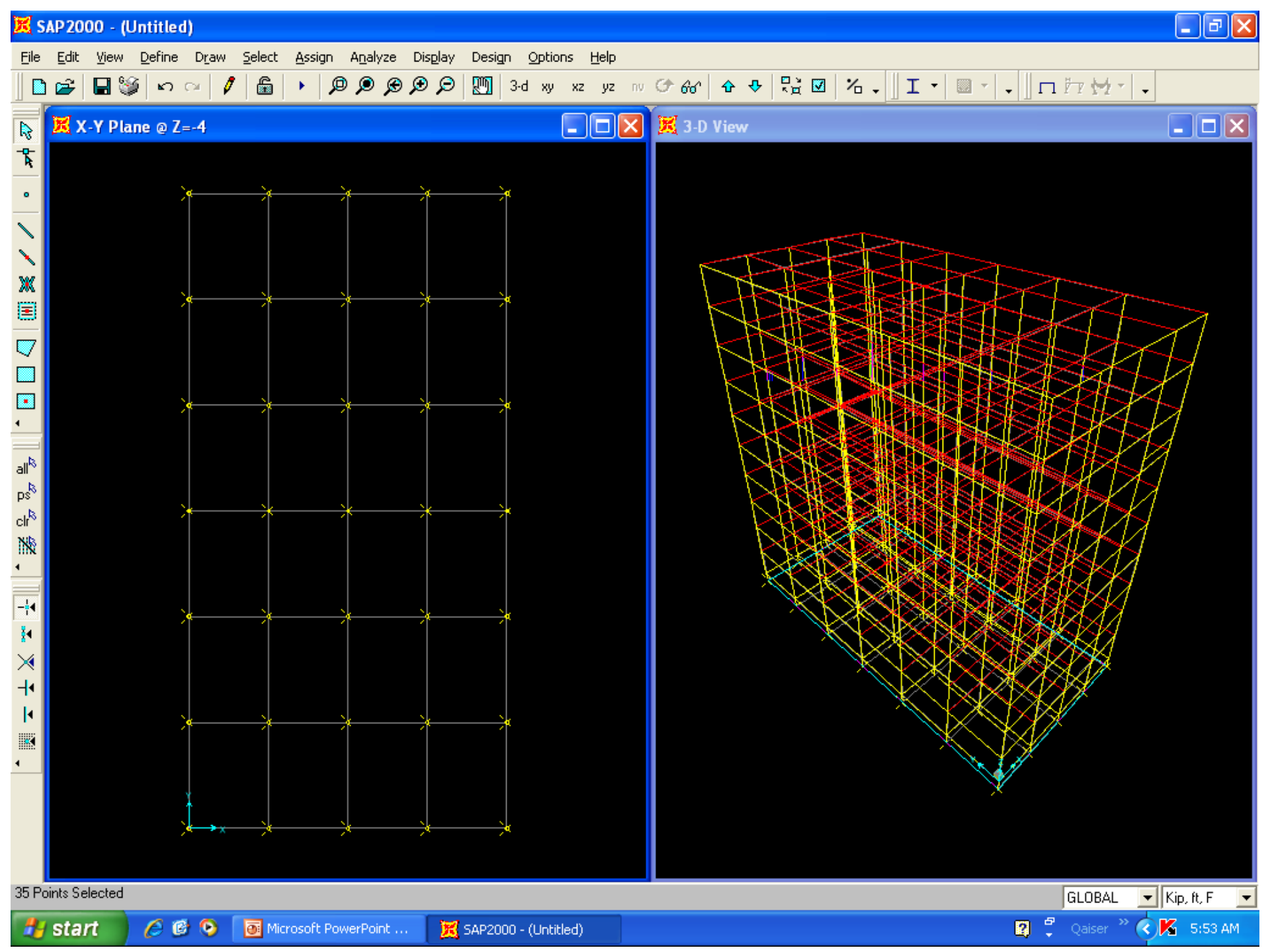

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
X-Z Plane @ Y=120
3-D View
all
ps
clr
5 Points 5 Lines Selected
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:28 AM

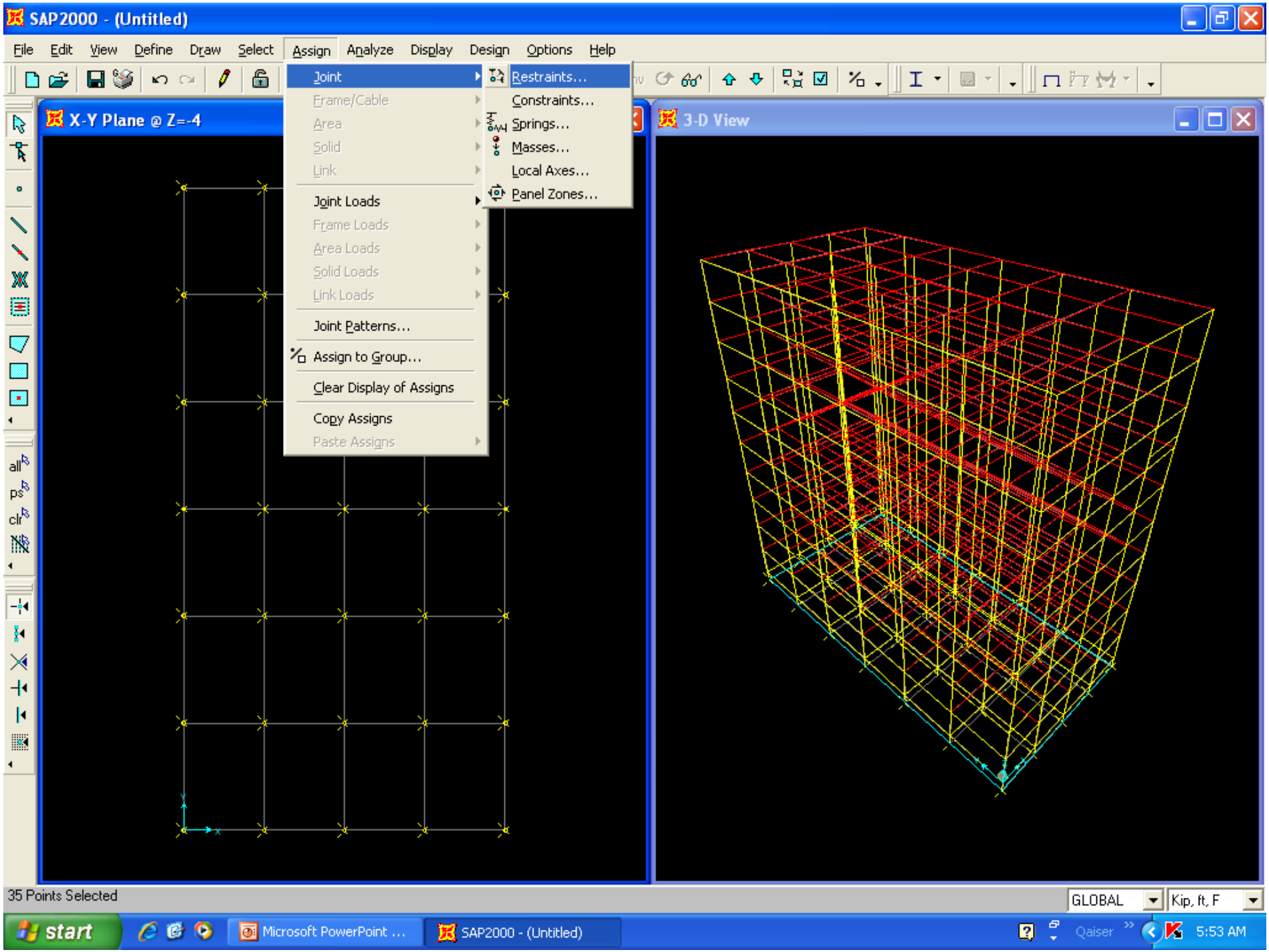

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Undo Frame Add Ctrl+Z
Redo
Cut Ctrl+X
Copy Ctrl+C
Paste... Ctrl+V
Delete Delete
Add to Model From Template... Ctrl+T
Interactive Database Editing...
Add Grid at Selected Points...
Replicate... Ctrl+R
Extrude
Move... Ctrl+M
Merge Joints...
Align Points...
Divide Frames...
Mesh Curved Frame/Cable...
Join Frames
Trim/Extend Frames...
Mesh Areas...
Mesh Solids...
Disconnect
Connect
Show Duplicates
Merge Duplicates...
Change Labels...
3-D View
5 Points 5 Lines Selected
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
5:50 AM

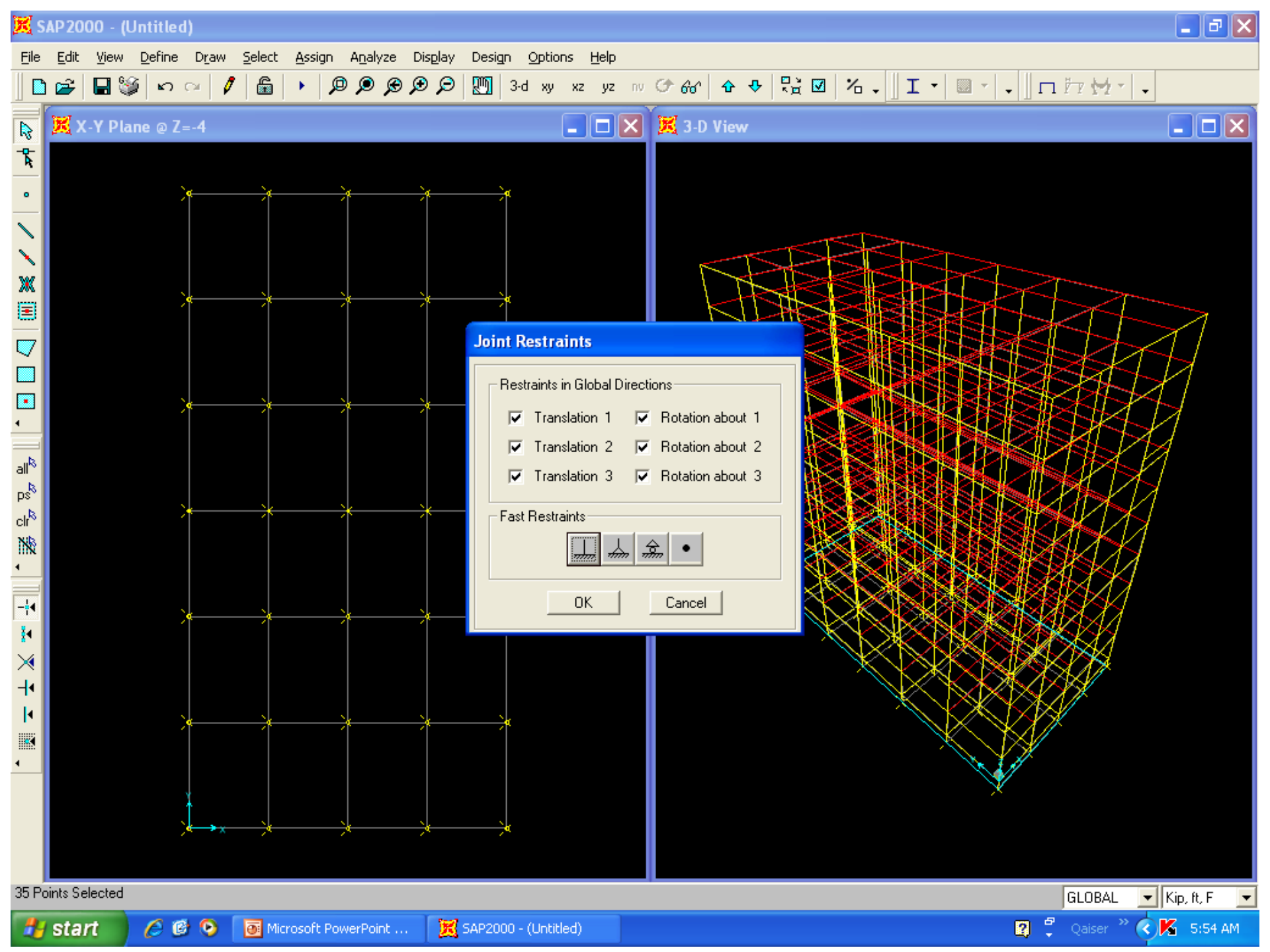

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
X-Z Plane @ Y=120
3-D View
Replicate
Linear
Radial
Mirror
Increments
dx 0.
dy -20
dz 0
Replicate Options
Modify/Show Replicate Options...
7 of 7 active boxes are selected
Delete Original Objects
Increment Data
Number 6
OK
Cancel
5 Points 5 Lines Selected
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
5:51 AM

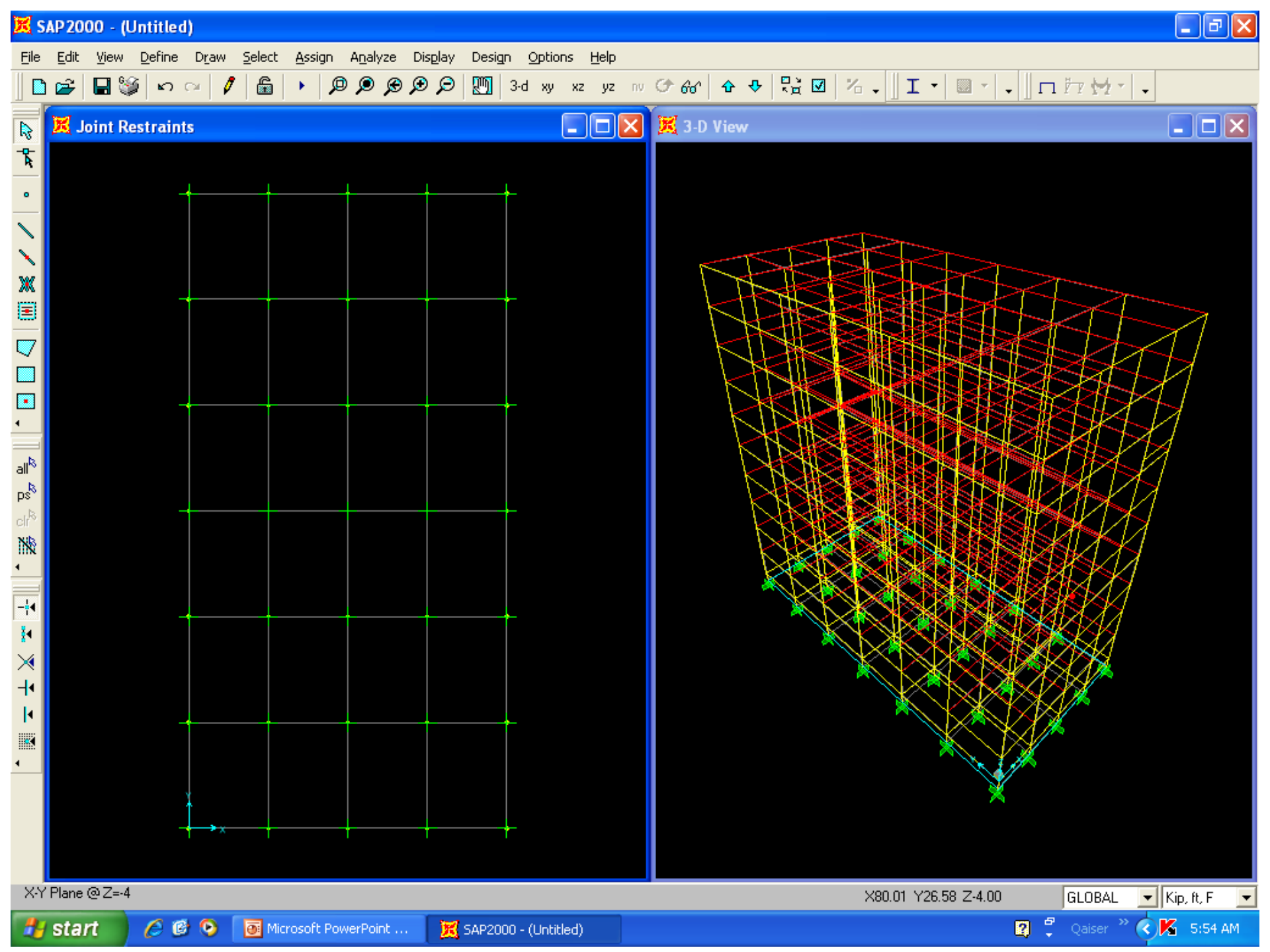

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
X-Y Plane @ Z=-4
3-D View
Set Display Options... (Ctrl+E)
all
ps
clr
X-Y Plane @ Z=-4
X0.00 Y0.00 Z0.00
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:52 AM

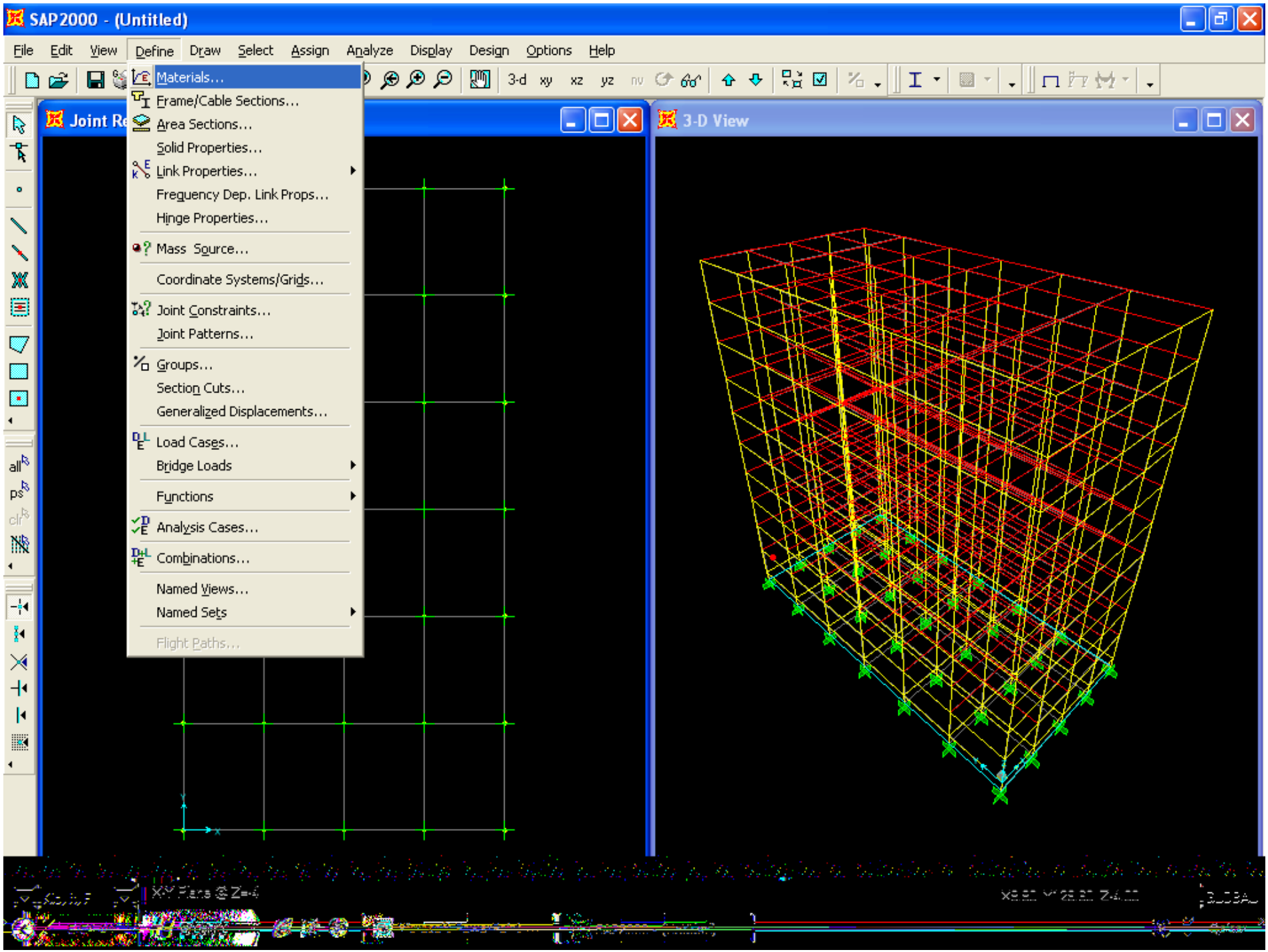

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
X-Y Plane @ Z=-4
3-D View
Display Options For Active Window
Joints
Labels
Restraints
Springs
Local Axes
Invisible
Not in View
Frames/Cables
Labels
Sections
Releases
Local Axes
Not in View
Areas
Labels
Sections
Local Axes
Not in View
Solids
Labels
Sections
Local Axes
Not in View
Links
Labels
Properties
Local Axes
Not in View
General
Shrink Objects
Shade Objects
Fill Objects
Show Edges
Show Ref. Lines
View by Colors of
Objects
Sections
Materials
Color Printer
White Background, Black Objects
Selected Groups
Select Groups...
Apply to All Windows
OK
Cancel
X-Y Plane @ Z=-4
X0.00 Y0.00 Z0.00
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:52 AM

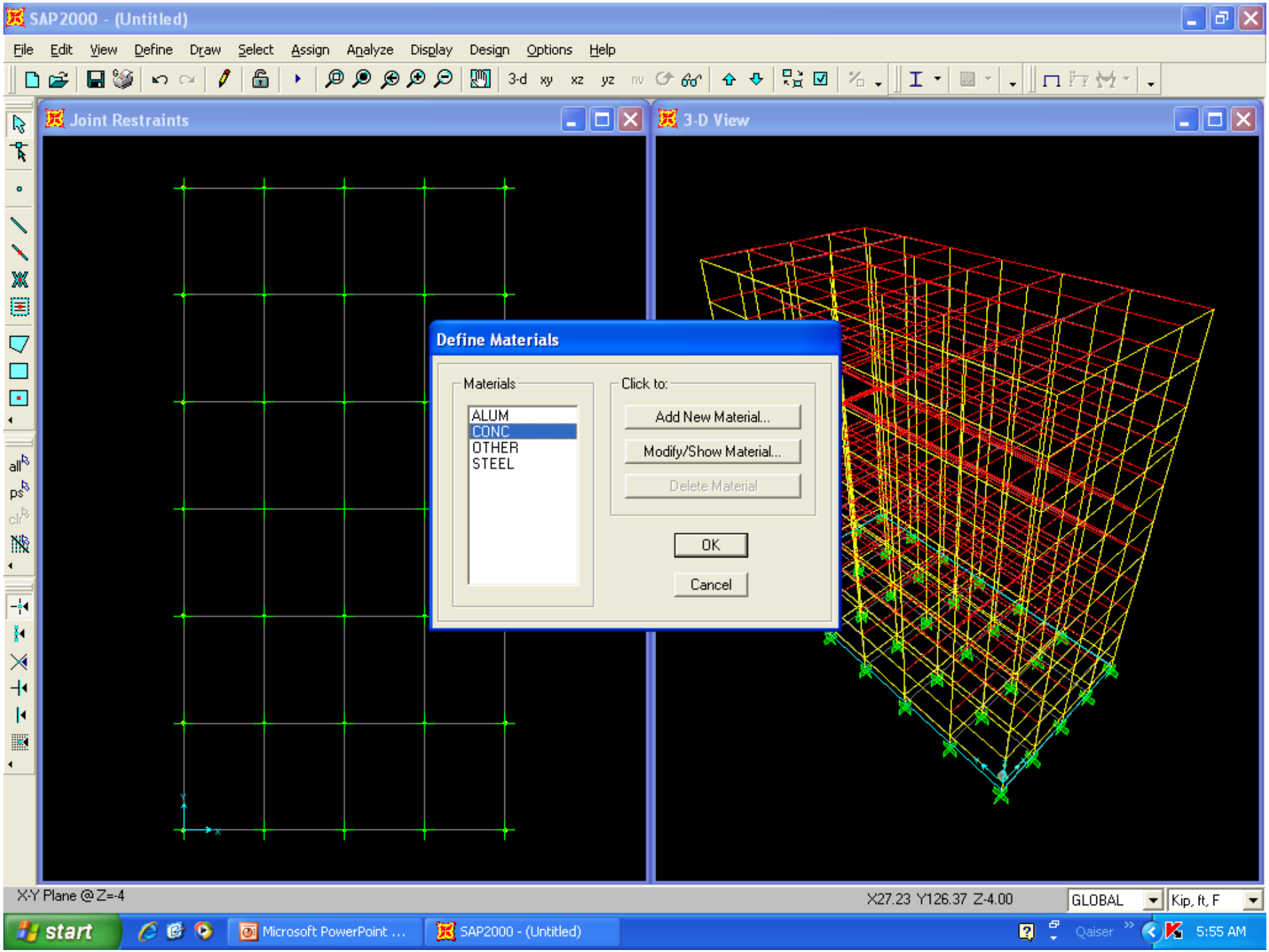

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
X-Y Plane @ Z=-4
3-D View
all
ps
clr
35 Points Selected
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:53 AM

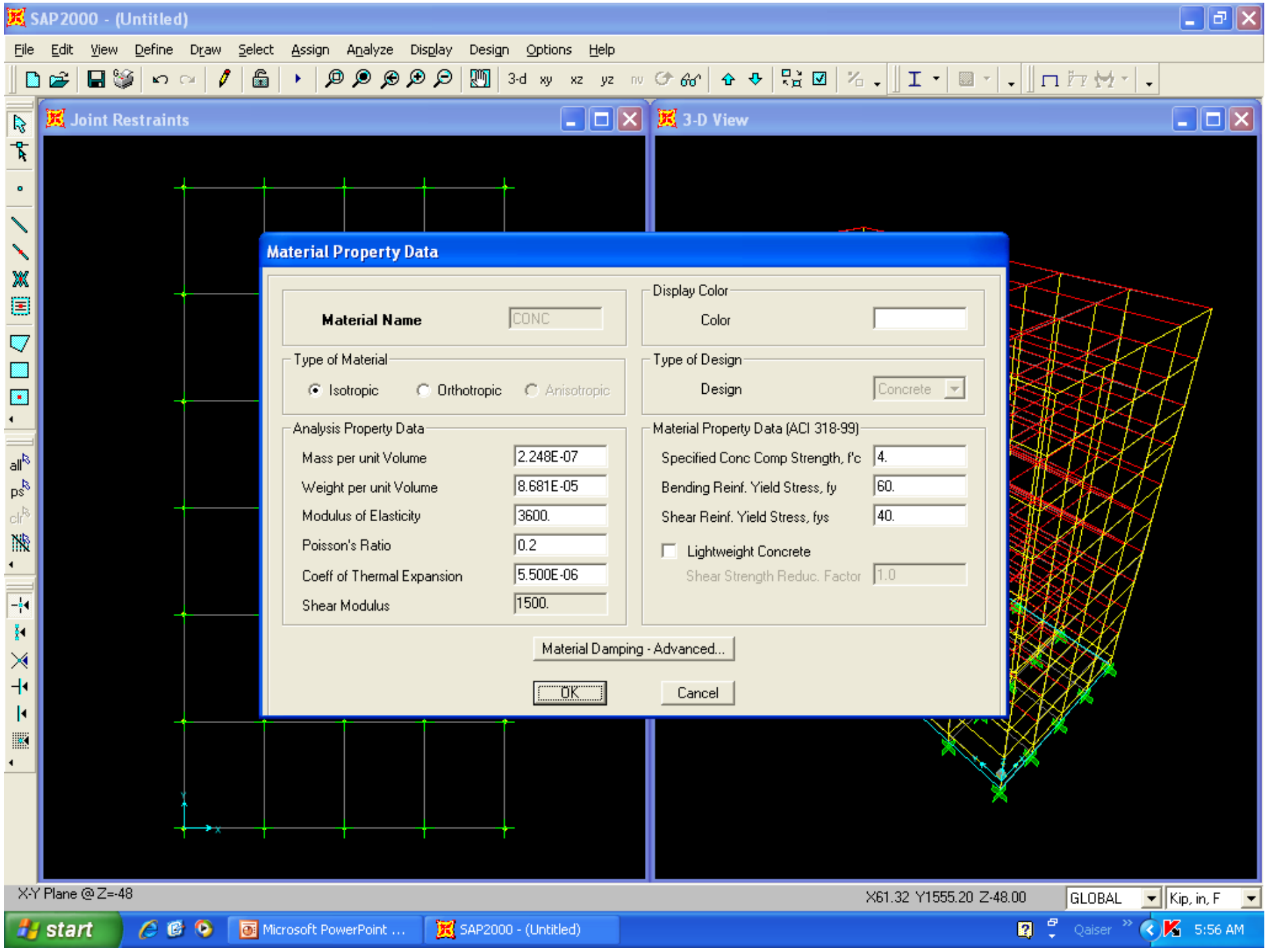

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Joint
Frame/Cable
Area
Solid
Link
Joint Loads
Frame Loads
Area Loads
Solid Loads
Link Loads
Joint Patterns...
Assign to Group...
Clear Display of Assigns
Copy Assigns
Paste Assigns
Restraints...
Constraints...
Springs...
Masses...
Local Axes...
Panel Zones...
X-Y Plane @ Z=-4
3-D View
35 Points Selected
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
5:53 AM

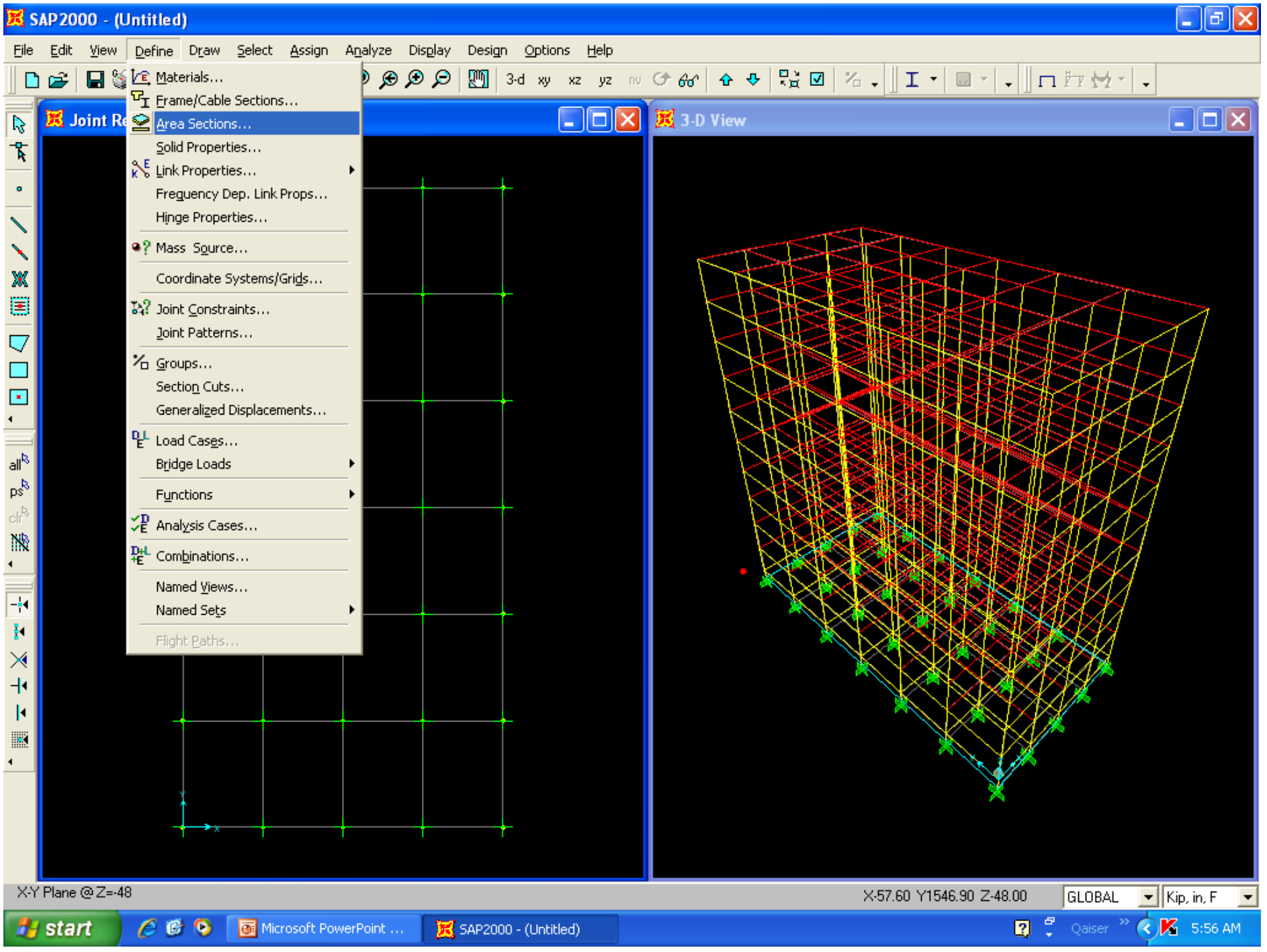

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
X-Y Plane @ Z=-4
3-D View
Joint Restraints
Restraints in Global Directions
Translation 1
Translation 2
Translation 3
Rotation about 1
Rotation about 2
Rotation about 3
Fast Restraints
OK
Cancel
35 Points Selected
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
5:54 AM

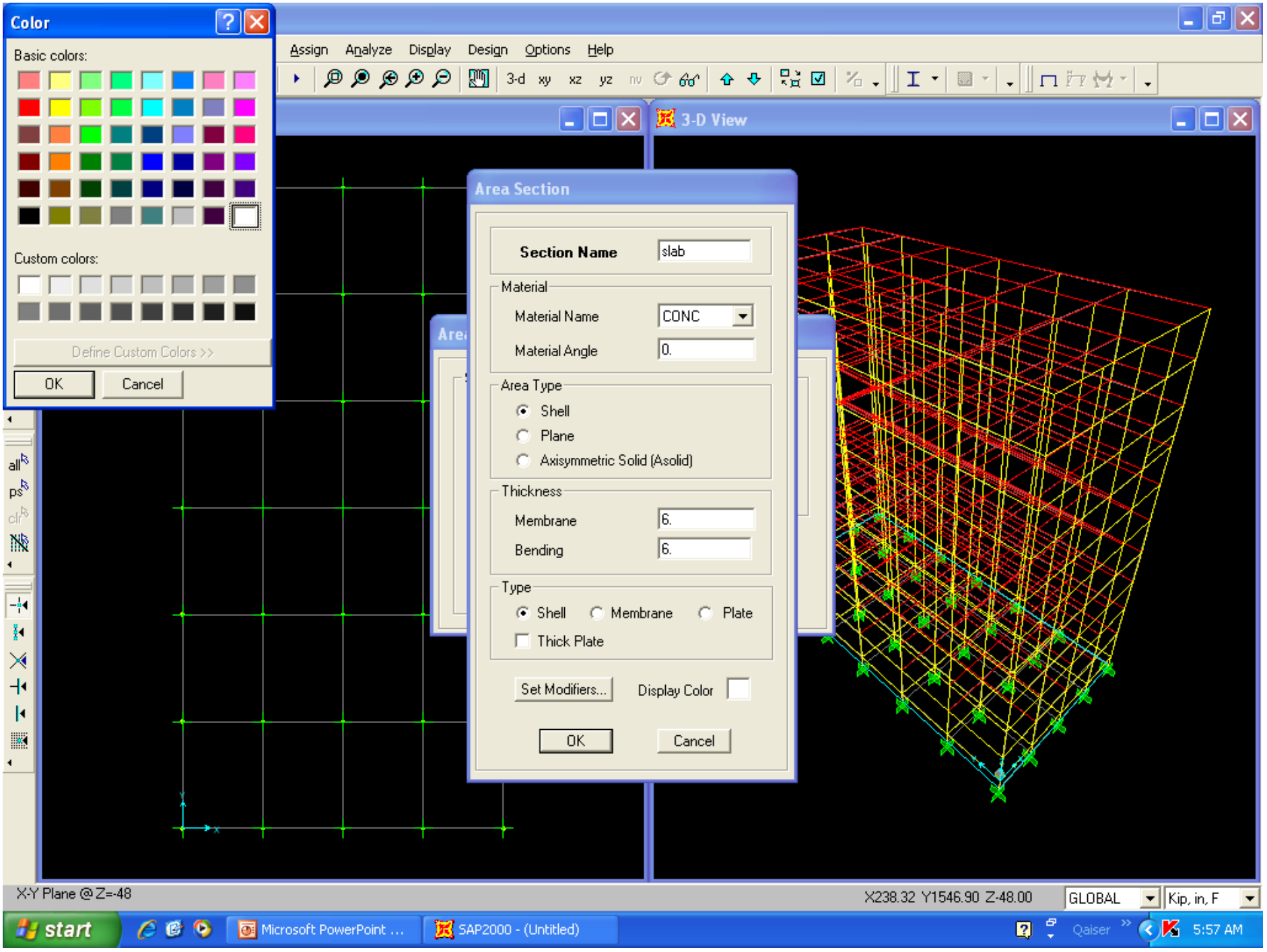

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
Joint Restraints
3-D View
X-Y Plane @ Z=-4
X80.01 Y26.58 Z-4.00
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:54 AM

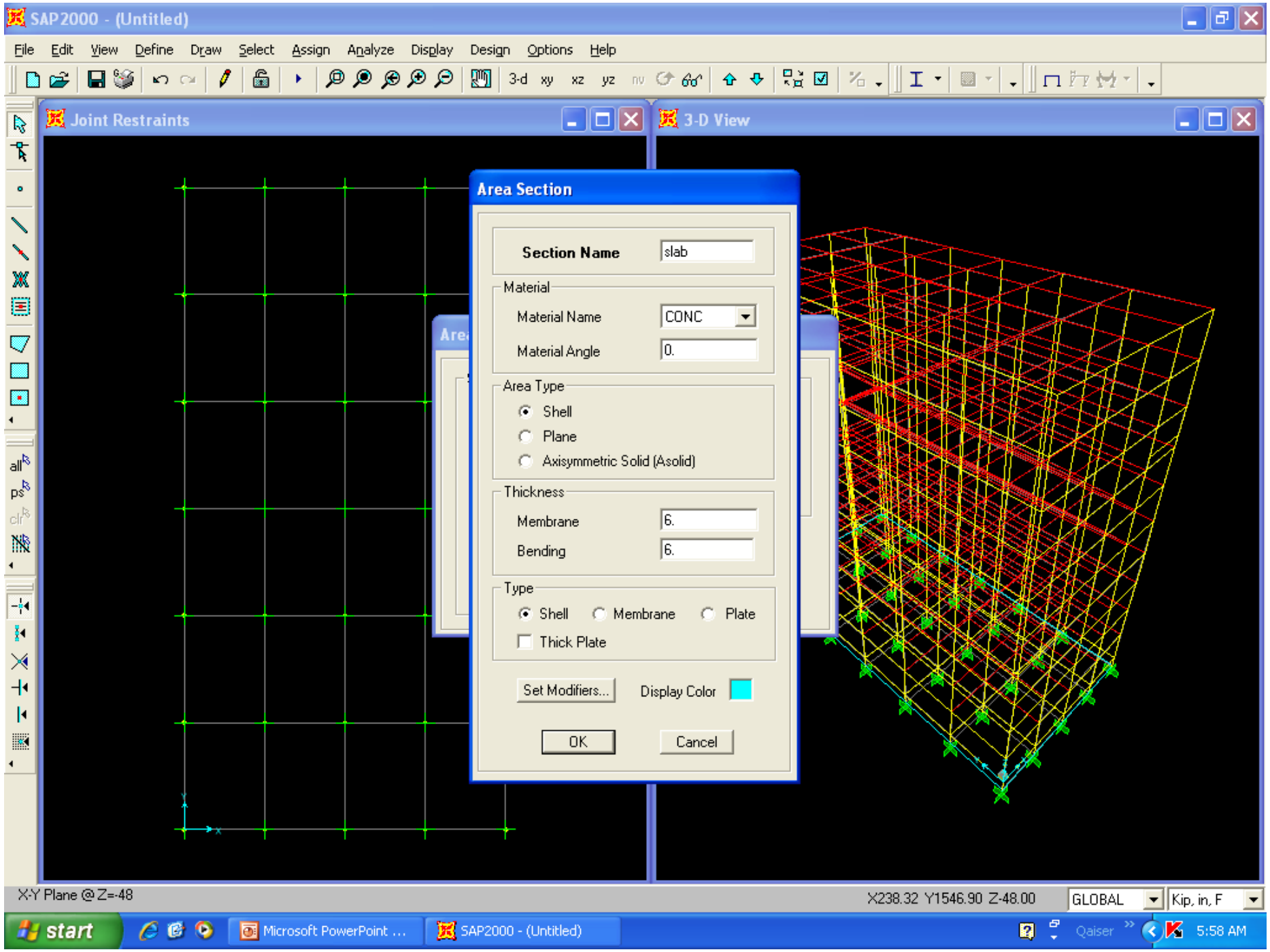

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Materials...
Frame/Cable Sections...
Area Sections...
Solid Properties...
Link Properties...
Frequency Dep. Link Props...
Hinge Properties...
Mass Source...
Coordinate Systems/Grids...
Joint Constraints...
Joint Patterns...
Groups...
Section Cuts...
Generalized Displacements...
Load Cases...
Bridge Loads
Functions
Analysis Cases...
Combinations...
Named Views...
Named Sets
Flight Paths...
3-D View

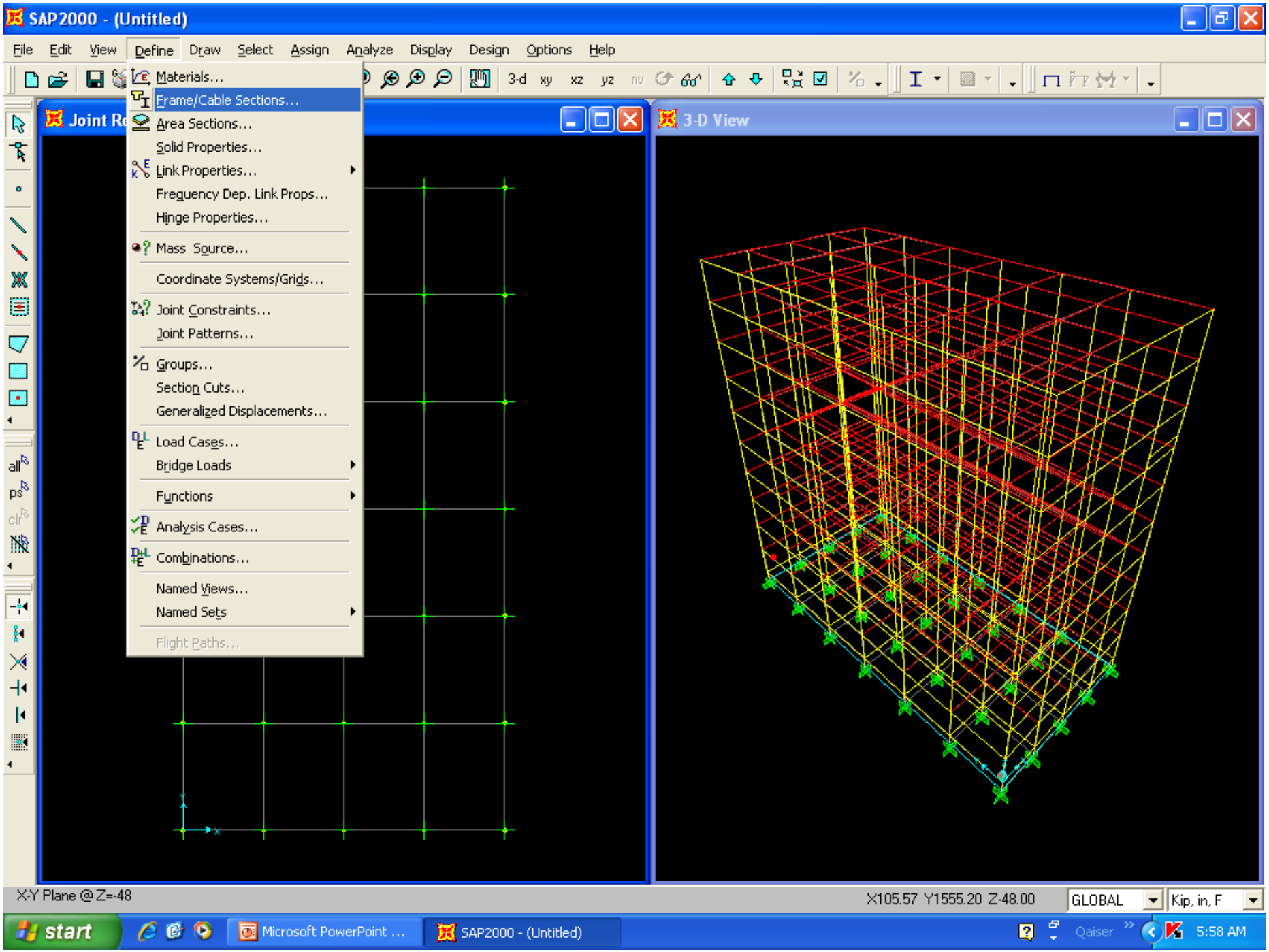

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Joint Restraints
3-D View
Define Materials
Materials
ALUM
CONC
OTHER
STEEL
Click to:
Add New Material...
Modify/Show Material...
Delete Material
OK
Cancel
X-Y Plane @ Z=-4
X27.23 Y126.37 Z-4.00
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
5:55 AM

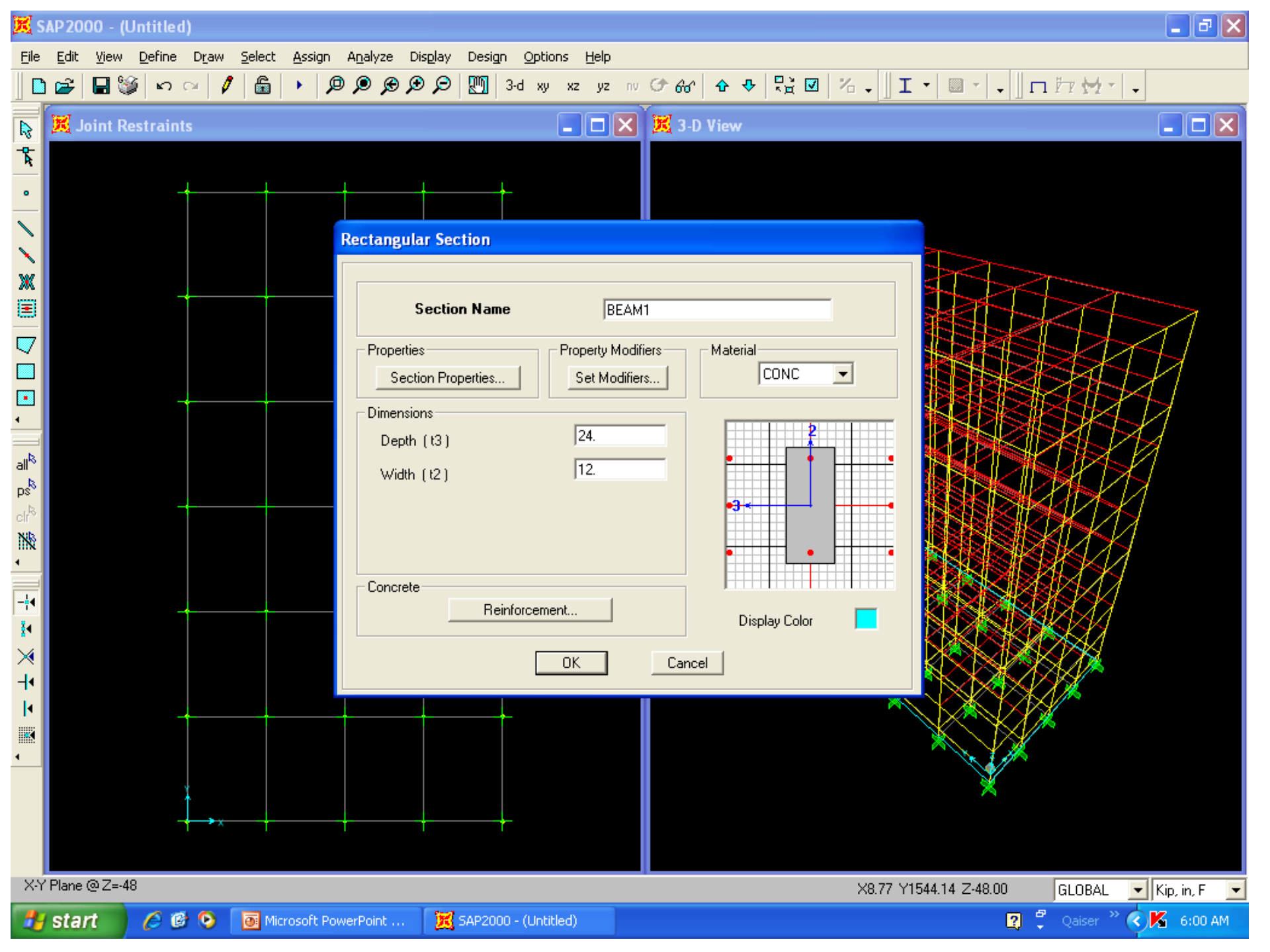

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Joint Restraints
3-D View
Material Property Data
Material Name
CONC
Display Color
Color
Type of Material
Isotropic
Orthotropic
Anisotropic
Type of Design
Design
Concrete
Analysis Property Data
Mass per unit Volume
2.248E-07
Weight per unit Volume
8.681E-05
Modulus of Elasticity
3600.
Poisson's Ratio
0.2
Coeff of Thermal Expansion
5.500E-06
Shear Modulus
1500.
Material Property Data (ACI 318-99)
Specified Conc Comp Strength, f'c
4.
Bending Reinf. Yield Stress, fy
60.
Shear Reinf. Yield Stress, fys
40.
Lightweight Concrete
Shear Strength Reduc. Factor
1.0
Material Damping - Advanced...
OK
Cancel
X-Y Plane @ Z=-48
X61.32 Y1555.20 Z-48.00
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
5:56 AM

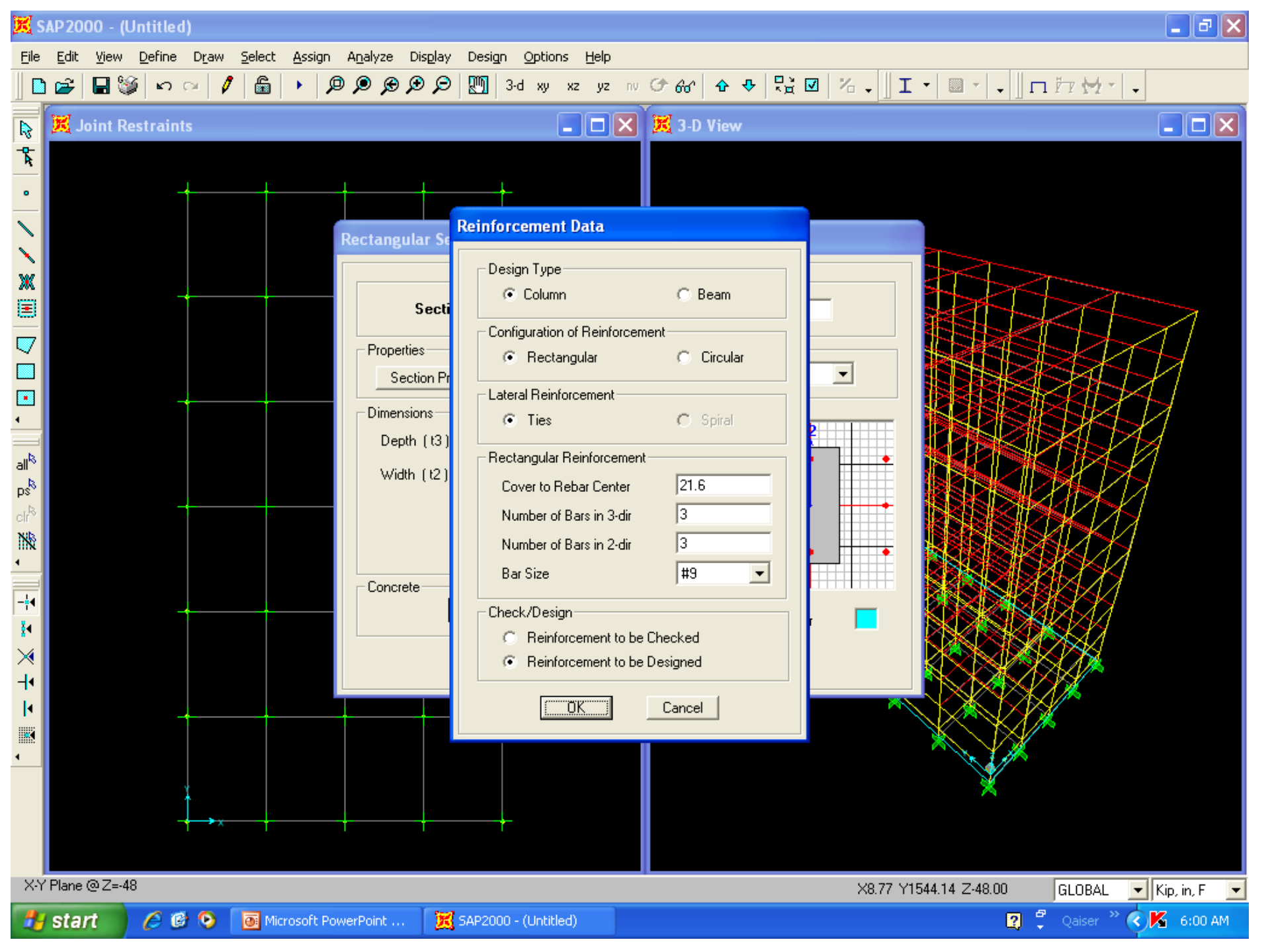

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Materials...
Frame/Cable Sections...
Area Sections...
Solid Properties...
Link Properties...
Frequency Dep. Link Props...
Hinge Properties...
Mass Source...
Coordinate Systems/Grids...
Joint Constraints...
Joint Patterns...
Groups...
Section Cuts...
Generalized Displacements...
Load Cases...
Bridge Loads
Functions
Analysis Cases...
Combinations...
Named Views...
Named Sets
Flight Paths...
3-D View
X-Y Plane @ Z=-48
X-57.60 Y1546.90 Z-48.00
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
5:56 AM

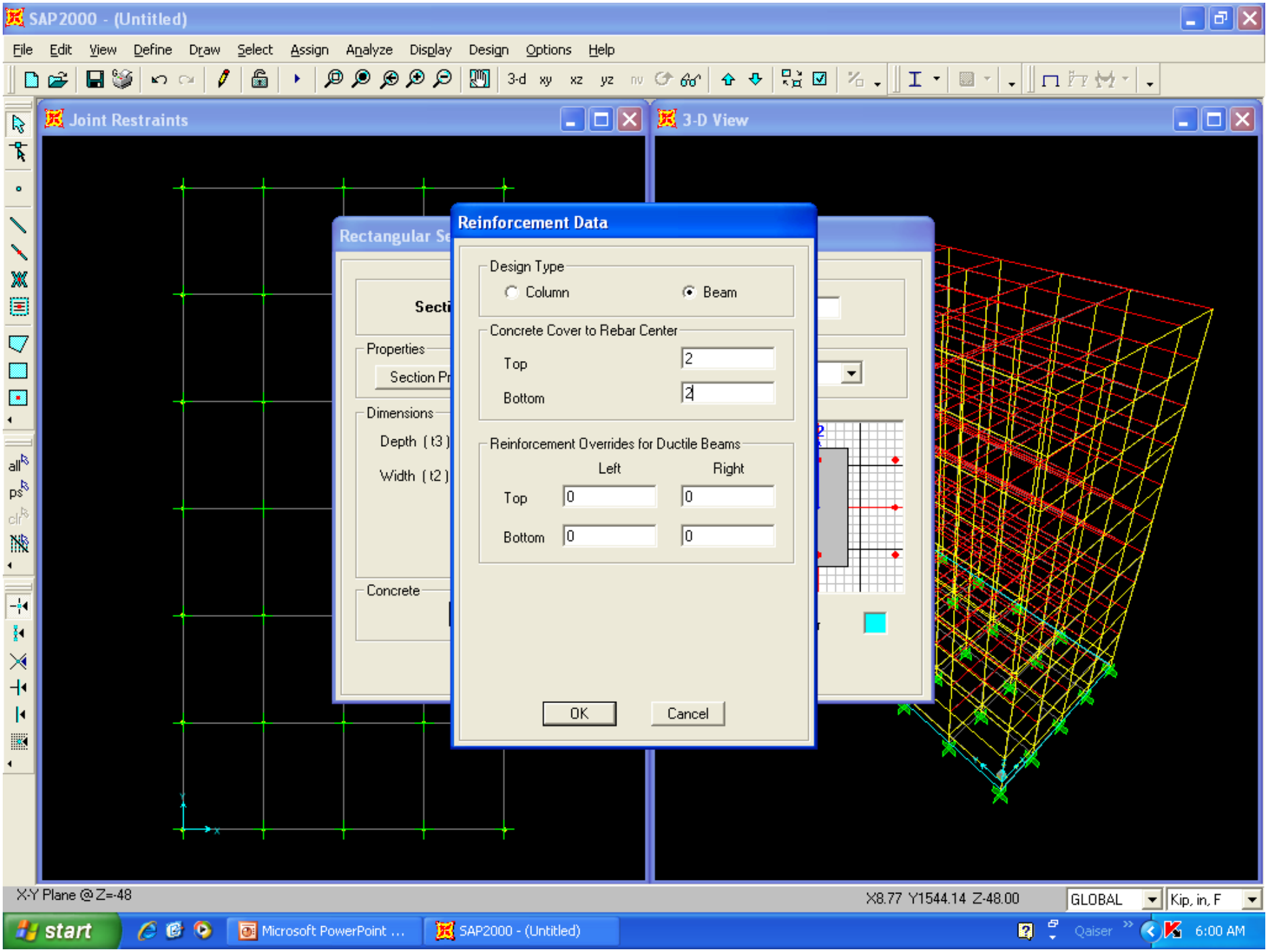

Color
Basic colors:
Custom colors:
Define Custom Colors >>
OK
Cancel
Assign
Analyze
Display
Design
Options
Help
3-d
xy
xz
yz
3-D View
Area Section
Section Name
slab
Material
Material Name
CONC
Material Angle
0.
Area Type
Shell
Plane
Axisymmetric Solid (Asolid)
Thickness
Membrane
6.
Bending
6.
Type
Shell
Membrane
Plate
Thick Plate
Set Modifiers...
Display Color
OK
Cancel
X-Y Plane @Z=-48
X238.32 Y1546.90 Z-48.00
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:57 AM

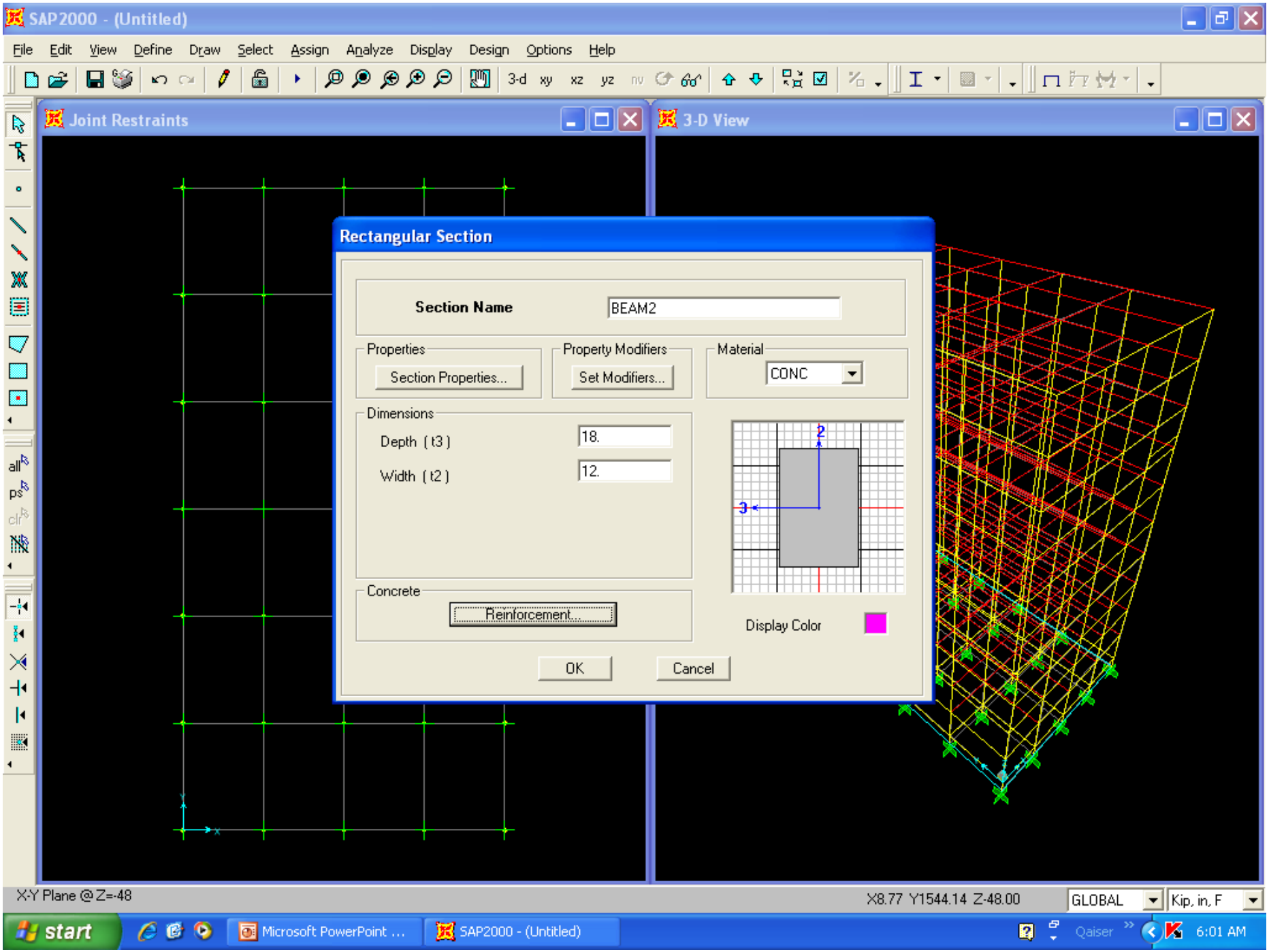

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Joint Restraints
3-D View
Area Section
Section Name
slab
Material
Material Name
CONC
Material Angle
0.
Area Type
Shell
Plane
Axisymmetric Solid (Asolid)
Thickness
Membrane
6.
Bending
6.
Type
Shell
Membrane
Plate
Thick Plate
Set Modifiers...
Display Color
OK
Cancel
X-Y Plane @ Z=-48
X238.32 Y1546.90 Z-48.00
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:58 AM

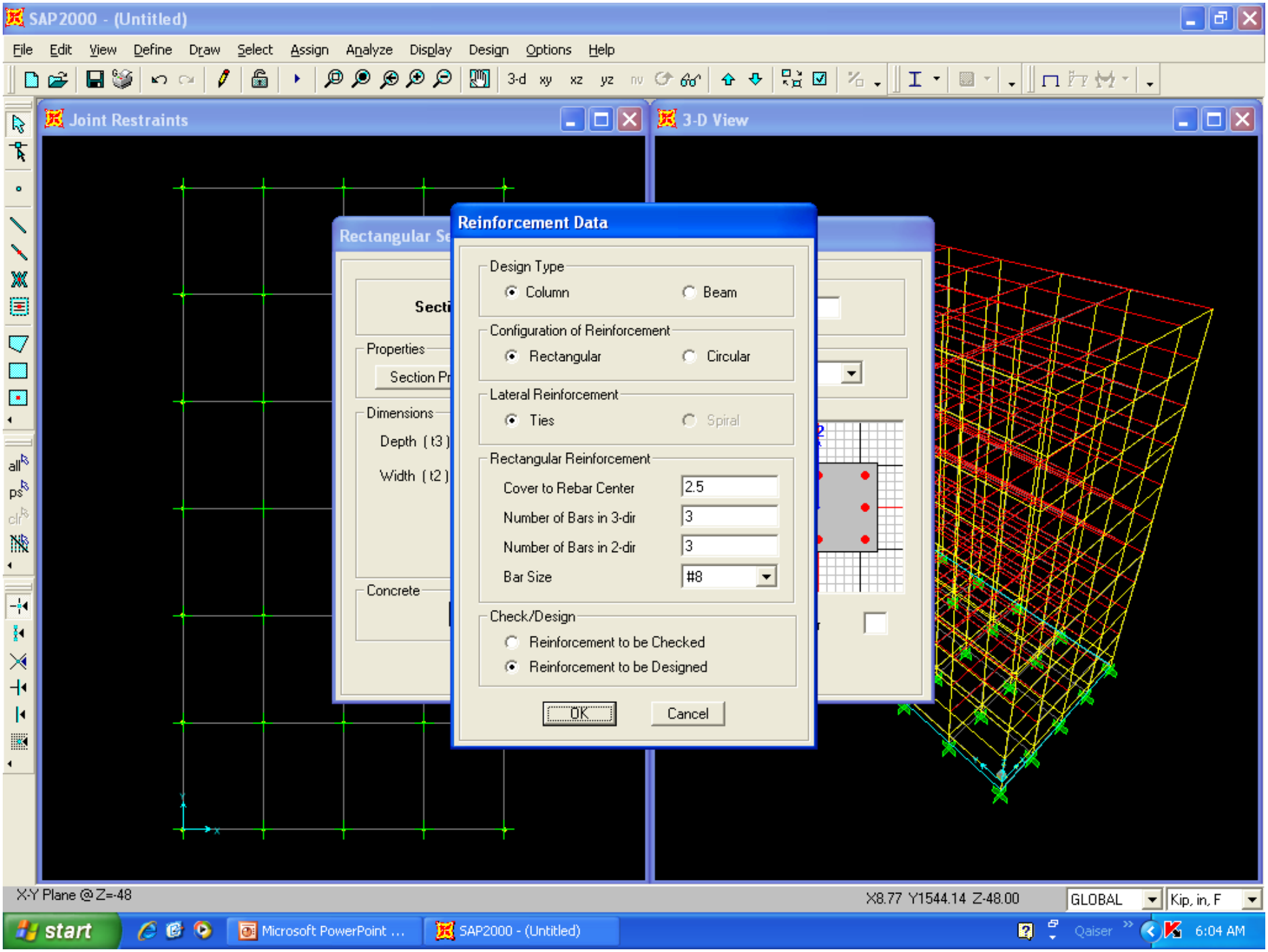

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Materials...
Frame/Cable Sections...
Area Sections...
Solid Properties...
Link Properties...
Frequency Dep. Link Props...
Hinge Properties...
Mass Source...
Coordinate Systems/Grids...
Joint Constraints...
Joint Patterns...
Groups...
Section Cuts...
Generalized Displacements...
Load Cases...
Bridge Loads
Functions
Analysis Cases...
Combinations...
Named Views...
Named Sets
Flight Paths...
3-D View
X-Y Plane @ Z=-48
X105.57 Y1555.20 Z-48.00
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
5:58 AM

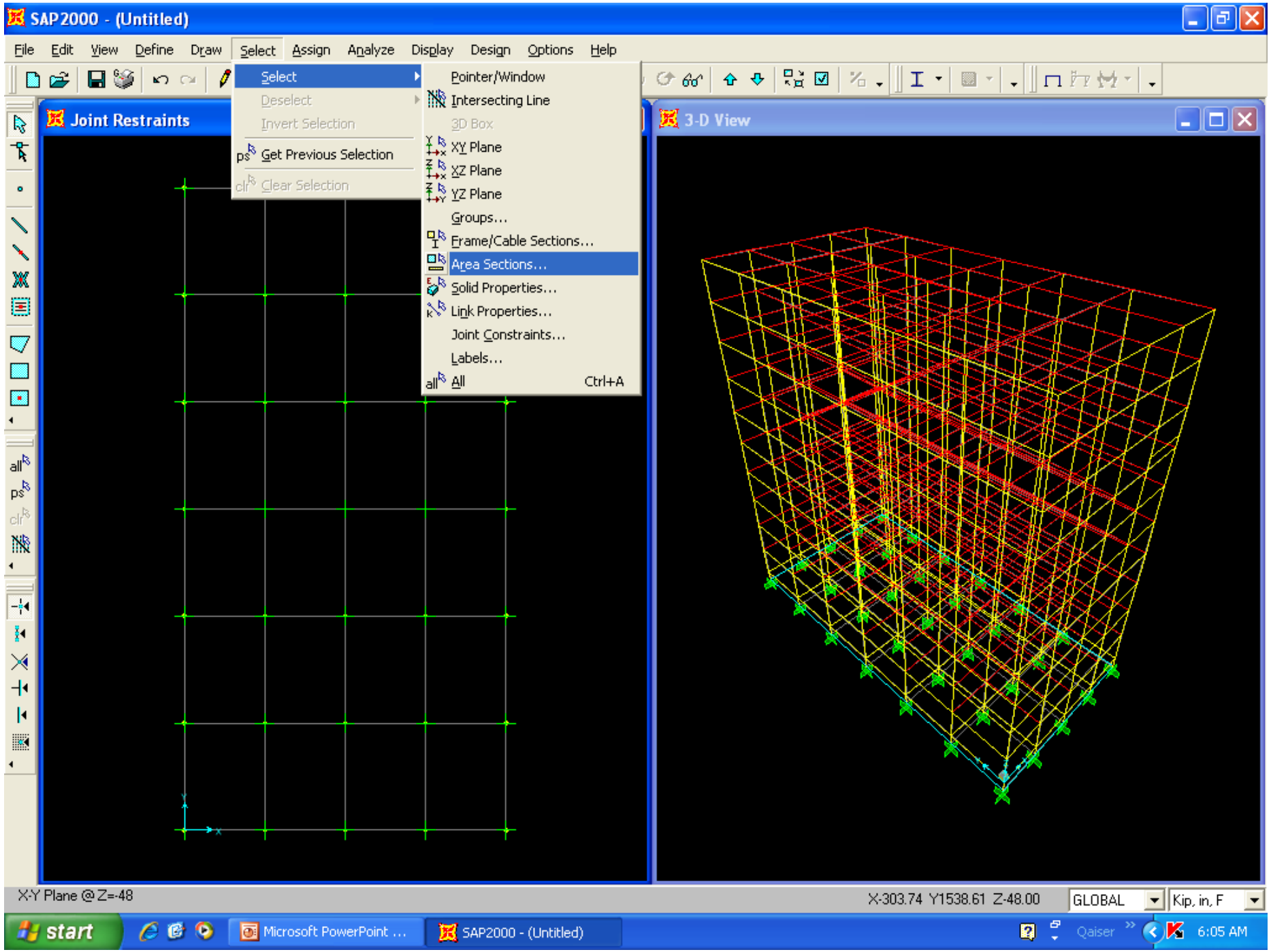

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Joint Restraints
3-D View
Rectangular Section
Section Name
BEAM1
Properties
Section Properties...
Property Modifiers
Set Modifiers...
Material
CONC
Dimensions
Depth (t3)
24.
Width (t2)
12.
2
3
Concrete
Reinforcement...
Display Color
OK
Cancel
X-Y Plane @ Z=-48
X8.77 Y1544.14 Z-48.00
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
6:00 AM

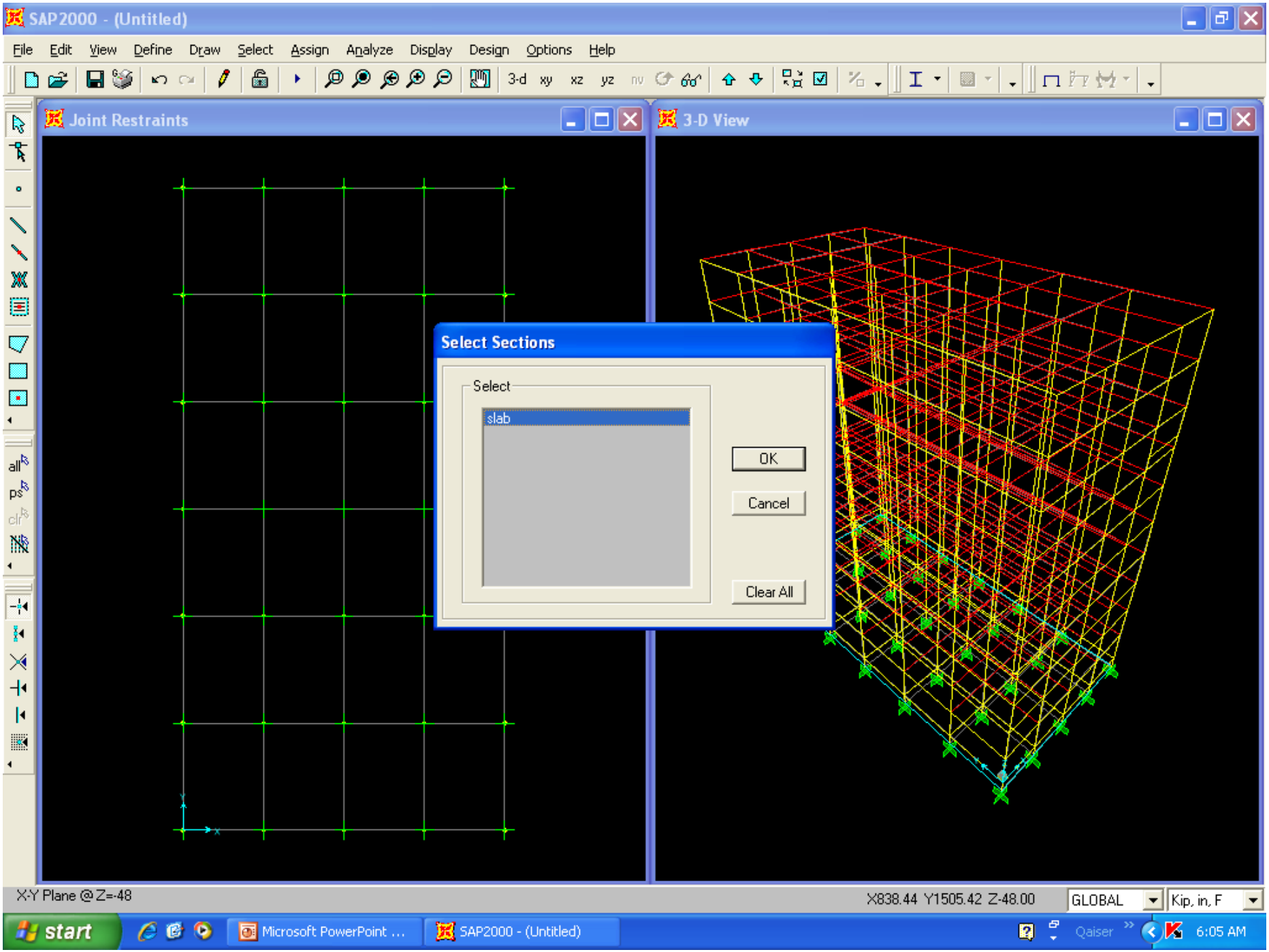

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Joint Restraints
3-D View
Rectangular Se
Reinforcement Data
Design Type
Column
Beam
Configuration of Reinforcement
Rectangular
Circular
Lateral Reinforcement
Ties
Spiral
Rectangular Reinforcement
Cover to Rebar Center
21.6
Number of Bars in 3-dir
3
Number of Bars in 2-dir
3
Bar Size
#9
Check/Design
Reinforcement to be Checked
Reinforcement to be Designed
OK
Cancel
Properties
Section Pr
Dimensions
Depth (t3)
Width (t2)
Concrete
X-Y Plane @ Z=-48
X8.77 Y1544.14 Z-48.00
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
6:00 AM

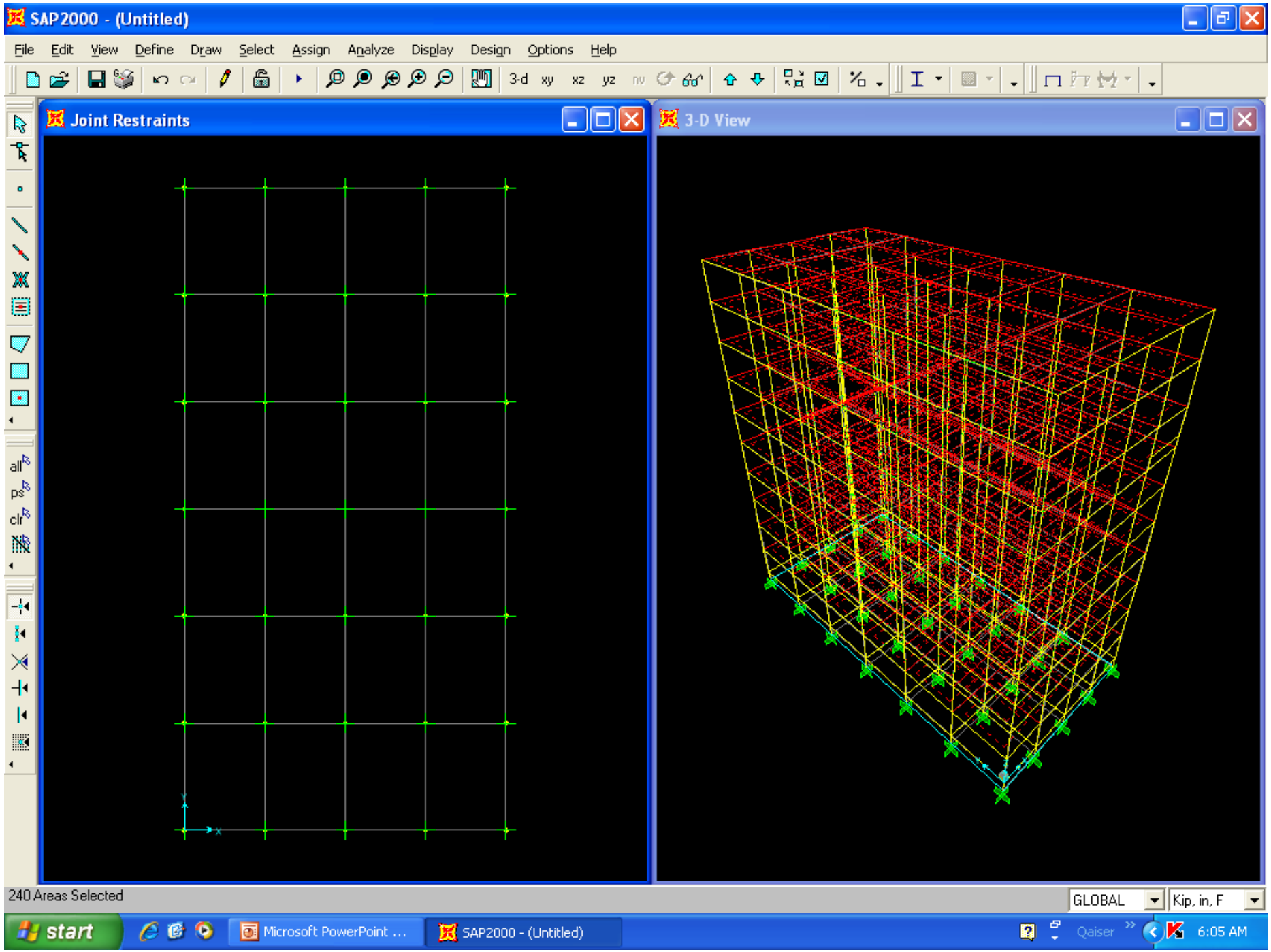

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Joint Restraints
3-D View
Rectangular Se
Reinforcement Data
Design Type
Column
Beam
Concrete Cover to Rebar Center
Top
2
Bottom
2
Reinforcement Overrides for Ductile Beams
Left
Right
Top
0
0
Bottom
0
0
OK
Cancel
Properties
Section Pr
Dimensions
Depth (t3)
Width (t2)
Concrete
X-Y Plane @ Z=-48
X8.77 Y1544.14 Z-48.00
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
6:00 AM

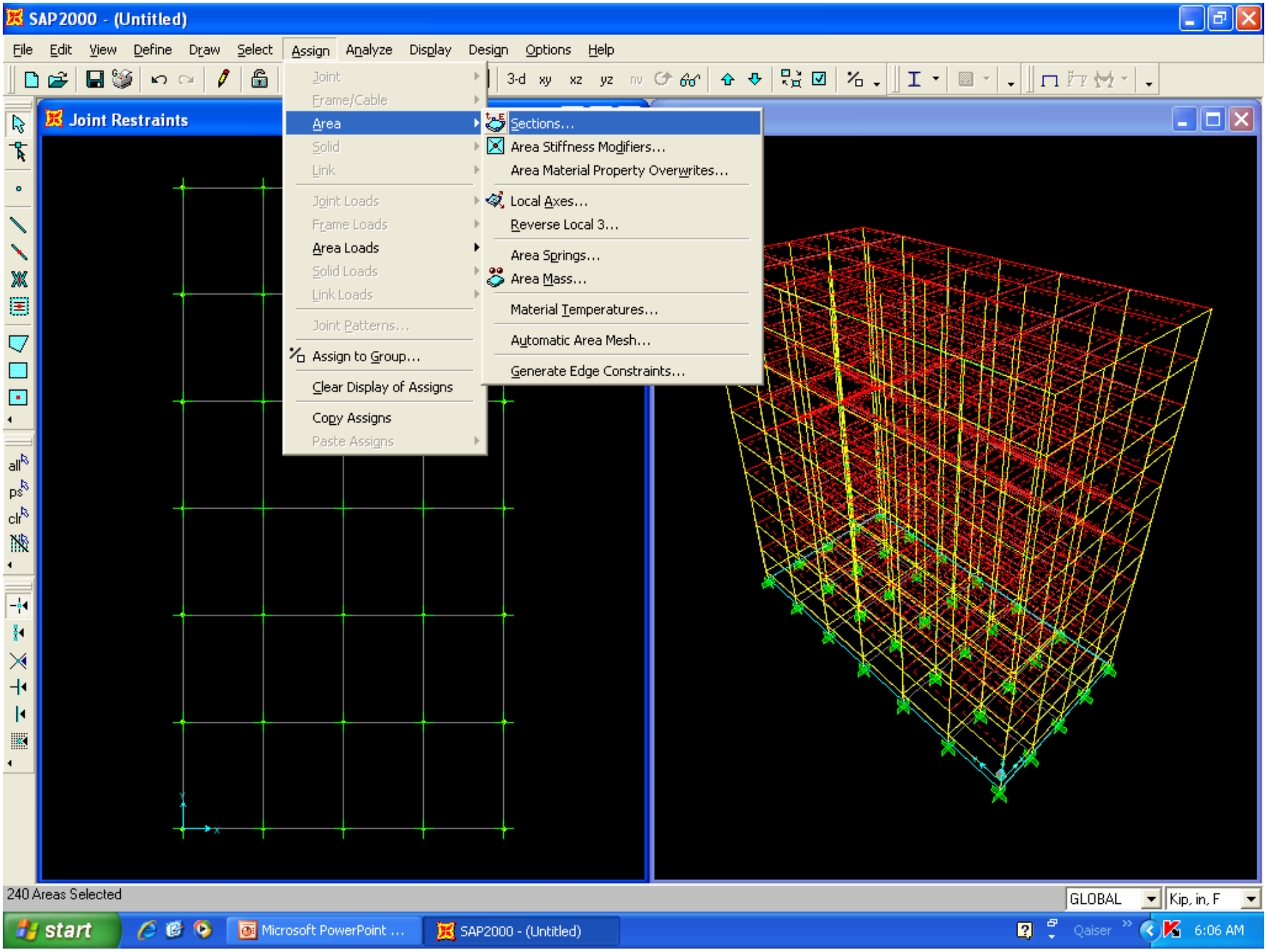

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Joint Restraints
3-D View
Rectangular Section
Section Name
BEAM2
Properties
Section Properties...
Property Modifiers
Set Modifiers...
Material
CONC
Dimensions
Depth (t3)
18.
Width (t2)
12.
2
3
Concrete
Reinforcement...
Display Color
OK
Cancel
X-Y Plane @ Z=-48
X8.77 Y1544.14 Z-48.00
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
6:01 AM

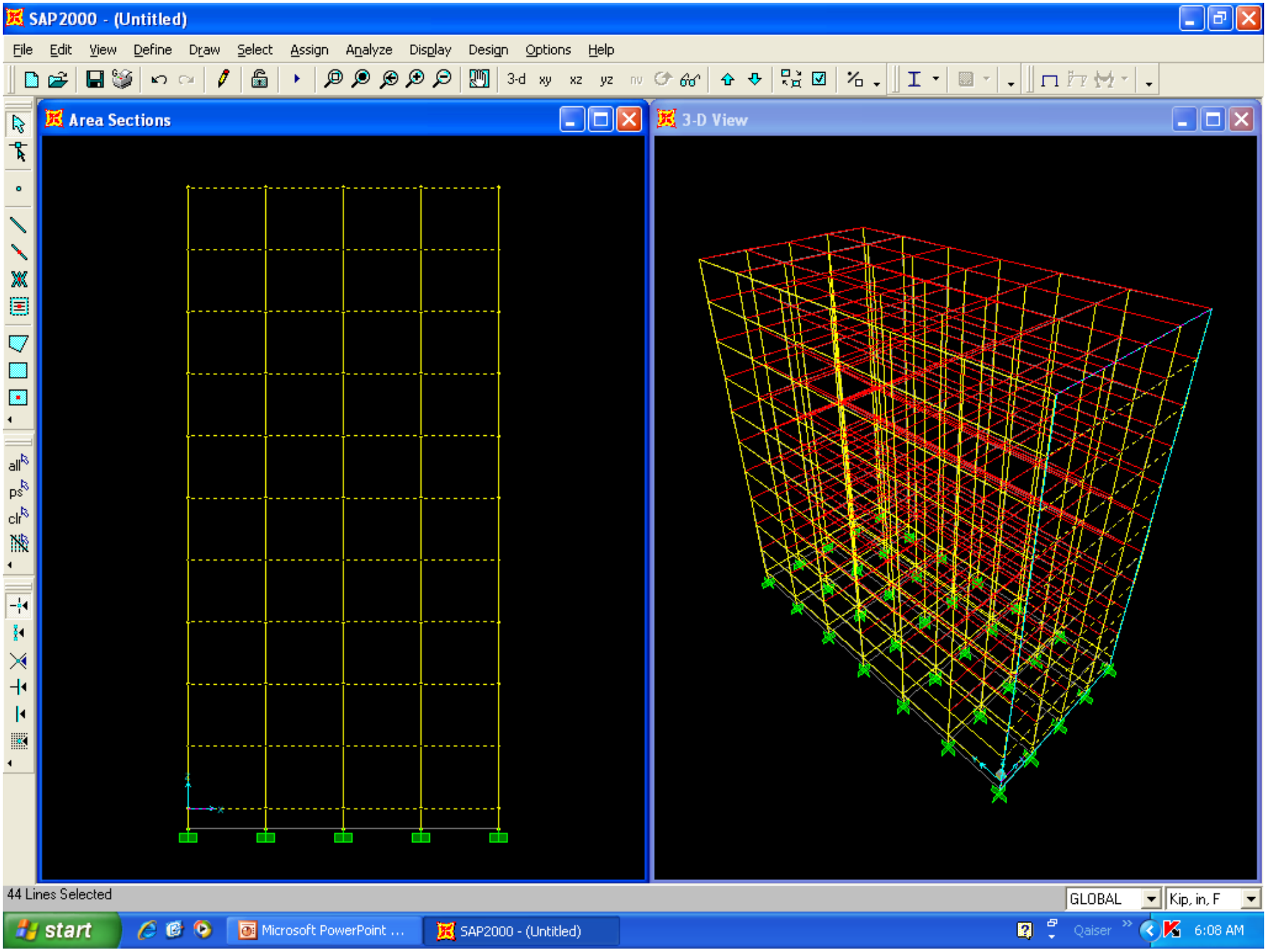

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Joint Restraints
3-D View
Rectangular Se
Reinforcement Data
Design Type
Column
Beam
Configuration of Reinforcement
Rectangular
Circular
Lateral Reinforcement
Ties
Spiral
Rectangular Reinforcement
Cover to Rebar Center
2.5
Number of Bars in 3-dir
3
Number of Bars in 2-dir
3
Bar Size
#8
Check/Design
Reinforcement to be Checked
Reinforcement to be Designed
OK
Cancel
Properties
Section Pr
Dimensions
Depth (t3)
Width (t2)
Concrete
X-Y Plane @ Z=-48
X8.77 Y1544.14 Z-48.00
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
6:04 AM

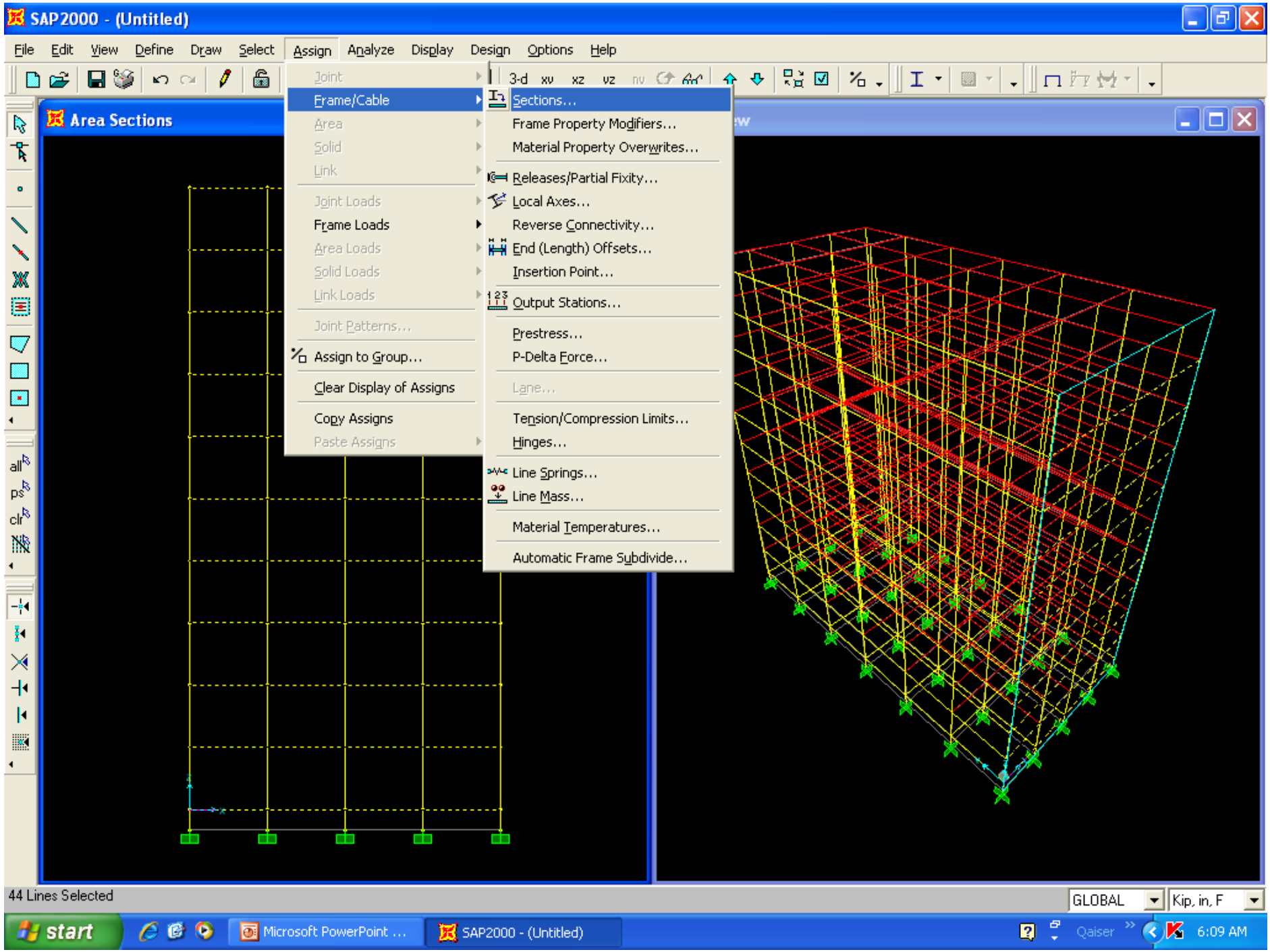

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Select
Deselect
Invert Selection
Get Previous Selection
Clear Selection
Pointer/Window
Intersecting Line
3D Box
XY Plane
XZ Plane
YZ Plane
Groups...
Frame/Cable Sections...
Area Sections...
Solid Properties...
Link Properties...
Joint Constraints...
Labels...
All Ctrl+A
Joint Restraints
3-D View
X-Y Plane @ Z=-48
X-303.74 Y1538.61 Z-48.00
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
6:05 AM

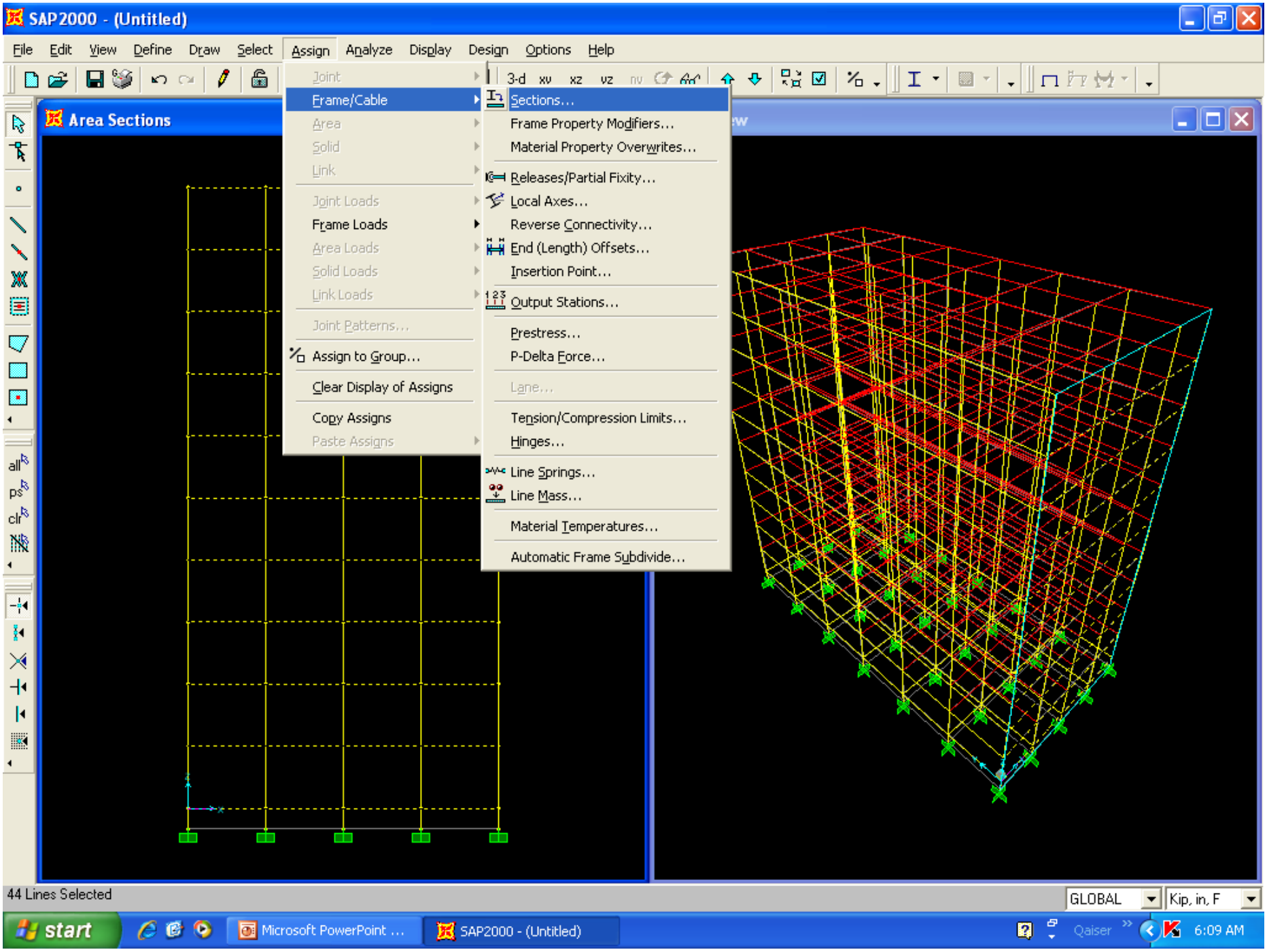

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
Joint Restraints
3-D View
Select Sections
Select
slab
OK
Cancel
Clear All
X-Y Plane @ Z=-48
X838.44 Y1505.42 Z-48.00
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
6:05 AM

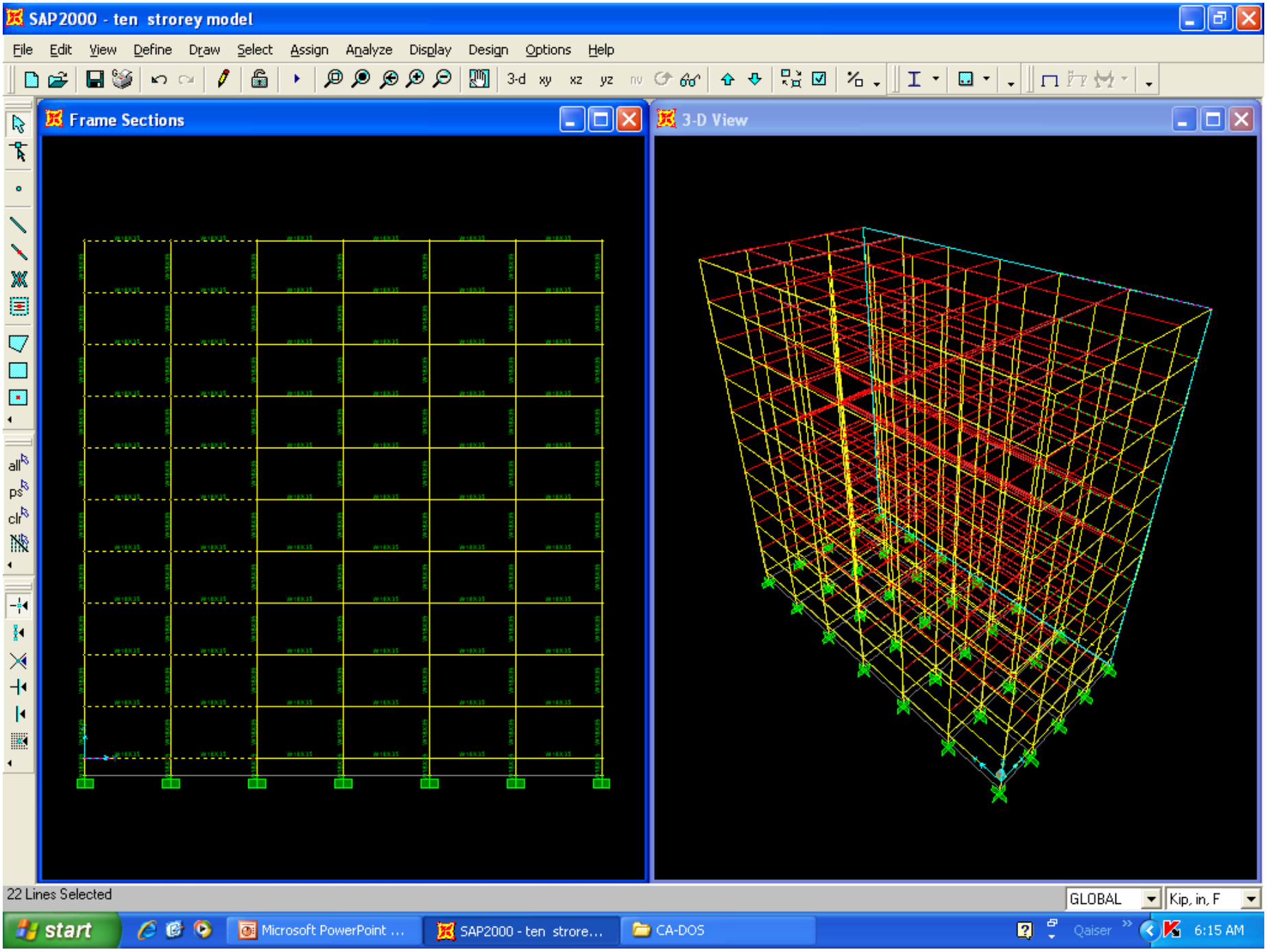

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz
Joint Restraints
3-D View
all
ps
clr
240 Areas Selected
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
6:05 AM

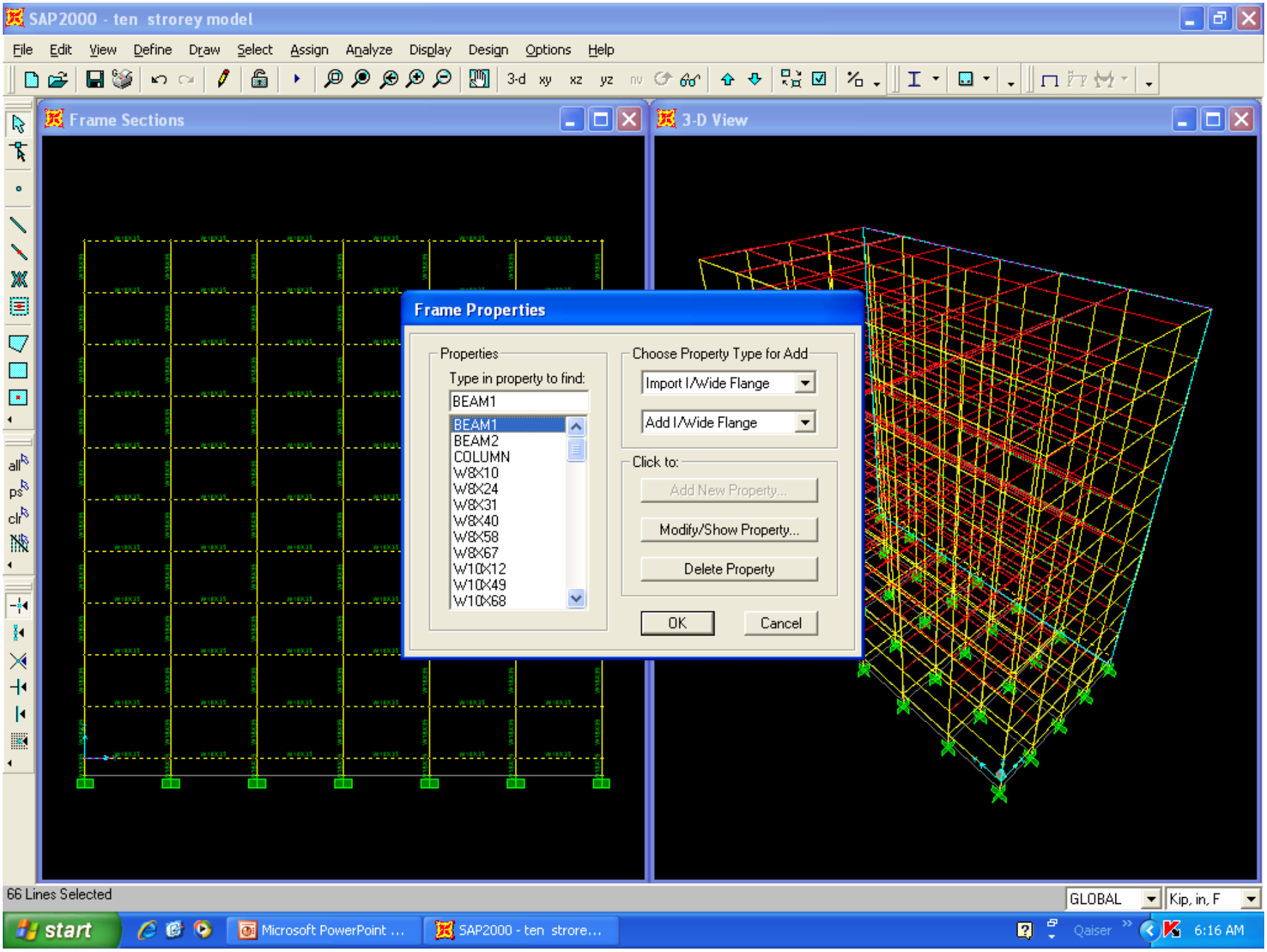

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Joint
Frame/Cable
Area
Solid
Link
Joint Loads
Frame Loads
Area Loads
Solid Loads
Link Loads
Joint Patterns...
Assign to Group...
Clear Display of Assigns
Copy Assigns
Paste Assigns
Sections...
Area Stiffness Modifiers...
Area Material Property Overwrites...
Local Axes...
Reverse Local 3...
Area Springs...
Area Mass...
Material Temperatures...
Automatic Area Mesh...
Generate Edge Constraints...
Joint Restraints
240 Areas Selected
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
6:06 AM

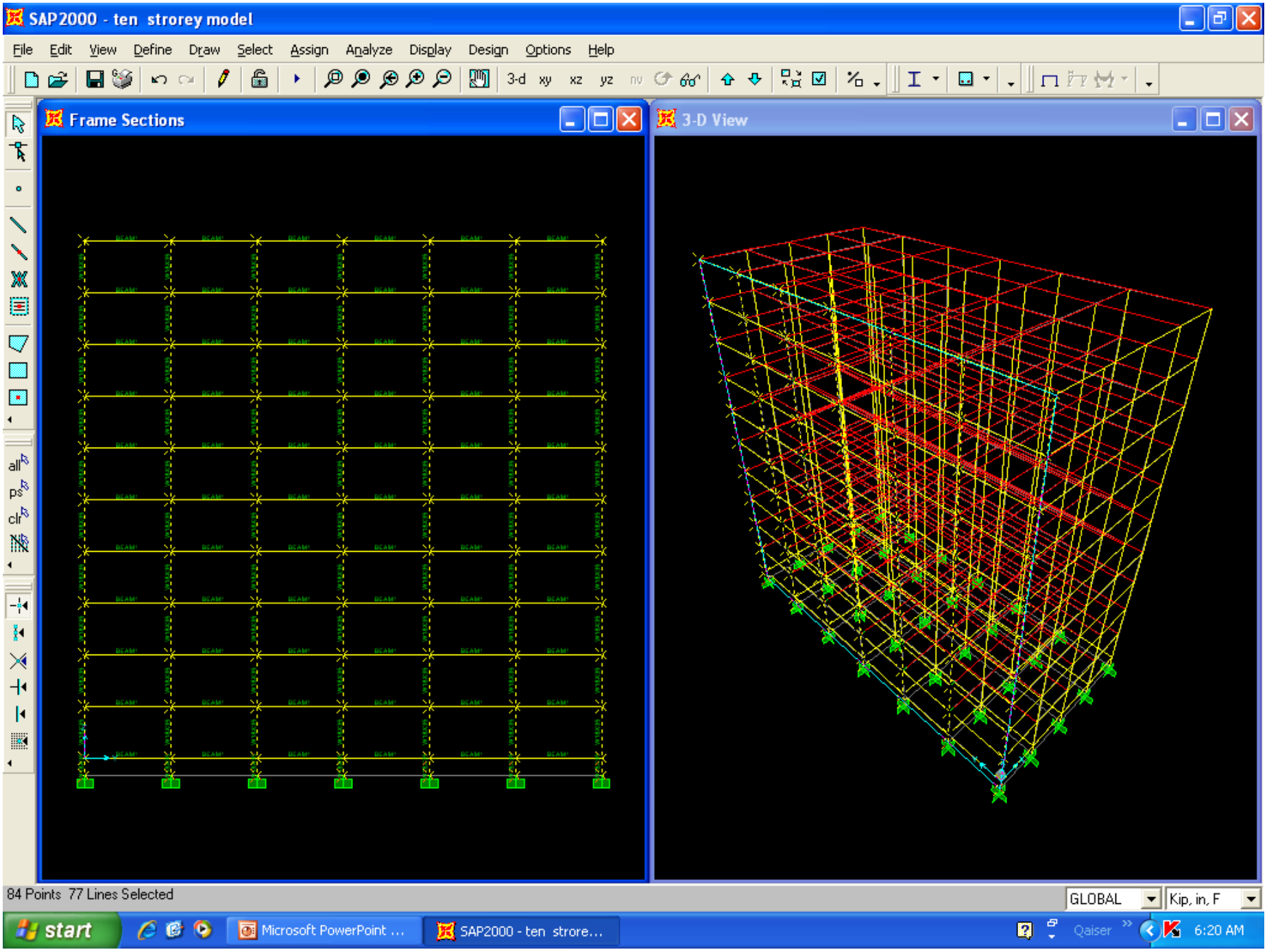

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
Area Sections
3-D View
all
ps
clr
44 Lines Selected
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
Qaiser
6:08 AM

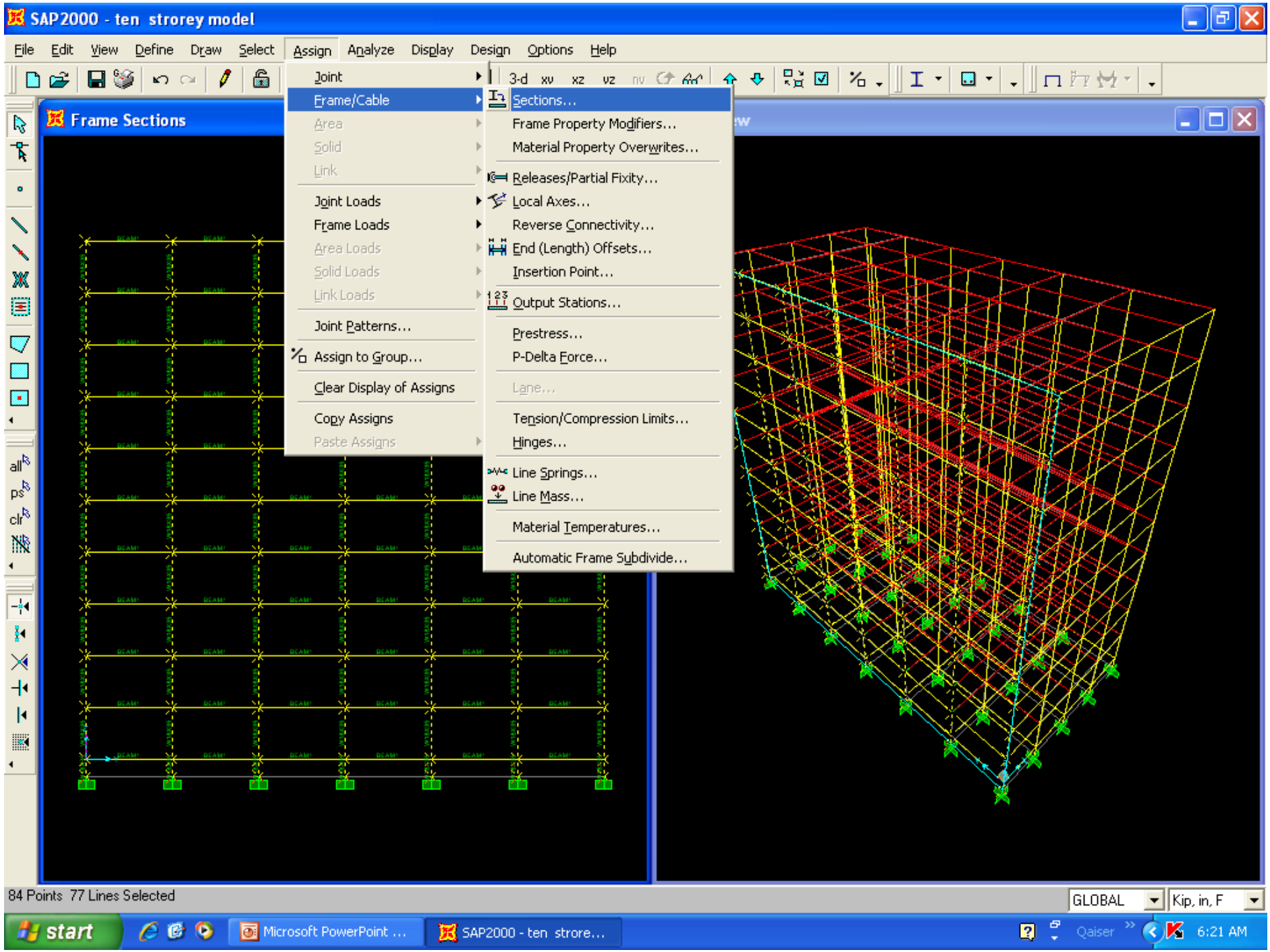

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Joint
Frame/Cable
Area
Solid
Link
Joint Loads
Frame Loads
Area Loads
Solid Loads
Link Loads
Joint Patterns...
Assign to Group...
Clear Display of Assigns
Copy Assigns
Paste Assigns
Sections...
Frame Property Modifiers...
Material Property Overwrites...
Releases/Partial Fixity...
Local Axes...
Reverse Connectivity...
End (Length) Offsets...
Insertion Point...
Output Stations...
Prestress...
P-Delta Force...
Lane...
Tension/Compression Limits...
Hinges...
Line Springs...
Line Mass...
Material Temperatures...
Automatic Frame Subdivide...
Area Sections
44 Lines Selected
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
6:09 AM

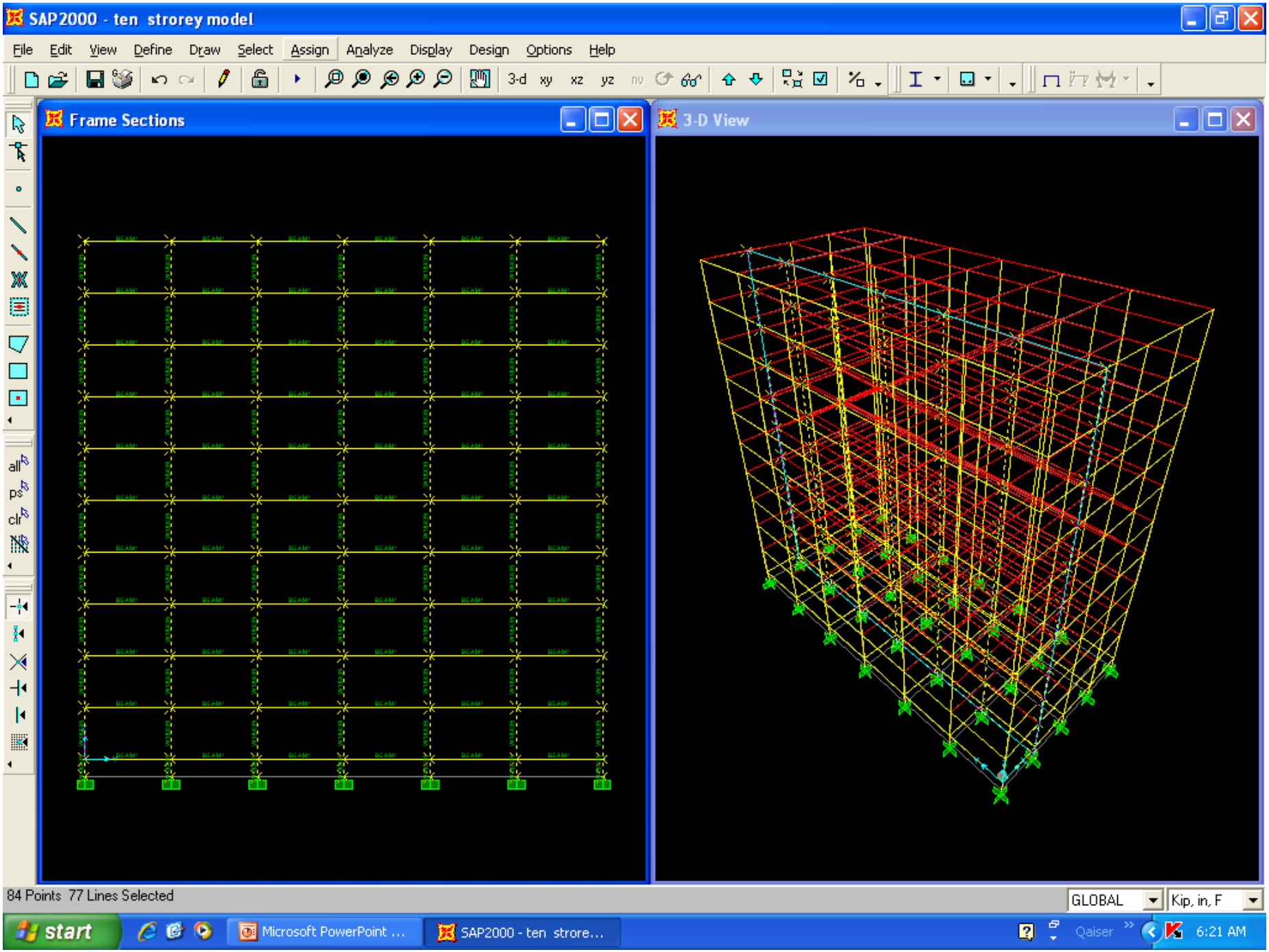

SAP2000 - (Untitled)
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Joint
Frame/Cable
Area
Solid
Link
Joint Loads
Frame Loads
Area Loads
Solid Loads
Link Loads
Joint Patterns...
Assign to Group...
Clear Display of Assigns
Copy Assigns
Paste Assigns
Sections...
Frame Property Modifiers...
Material Property Overwrites...
Releases/Partial Fixity...
Local Axes...
Reverse Connectivity...
End (Length) Offsets...
Insertion Point...
Output Stations...
Prestress...
P-Delta Force...
Lane...
Tension/Compression Limits...
Hinges...
Line Springs...
Line Mass...
Material Temperatures...
Automatic Frame Subdivide...
Area Sections
44 Lines Selected
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - (Untitled)
6:09 AM

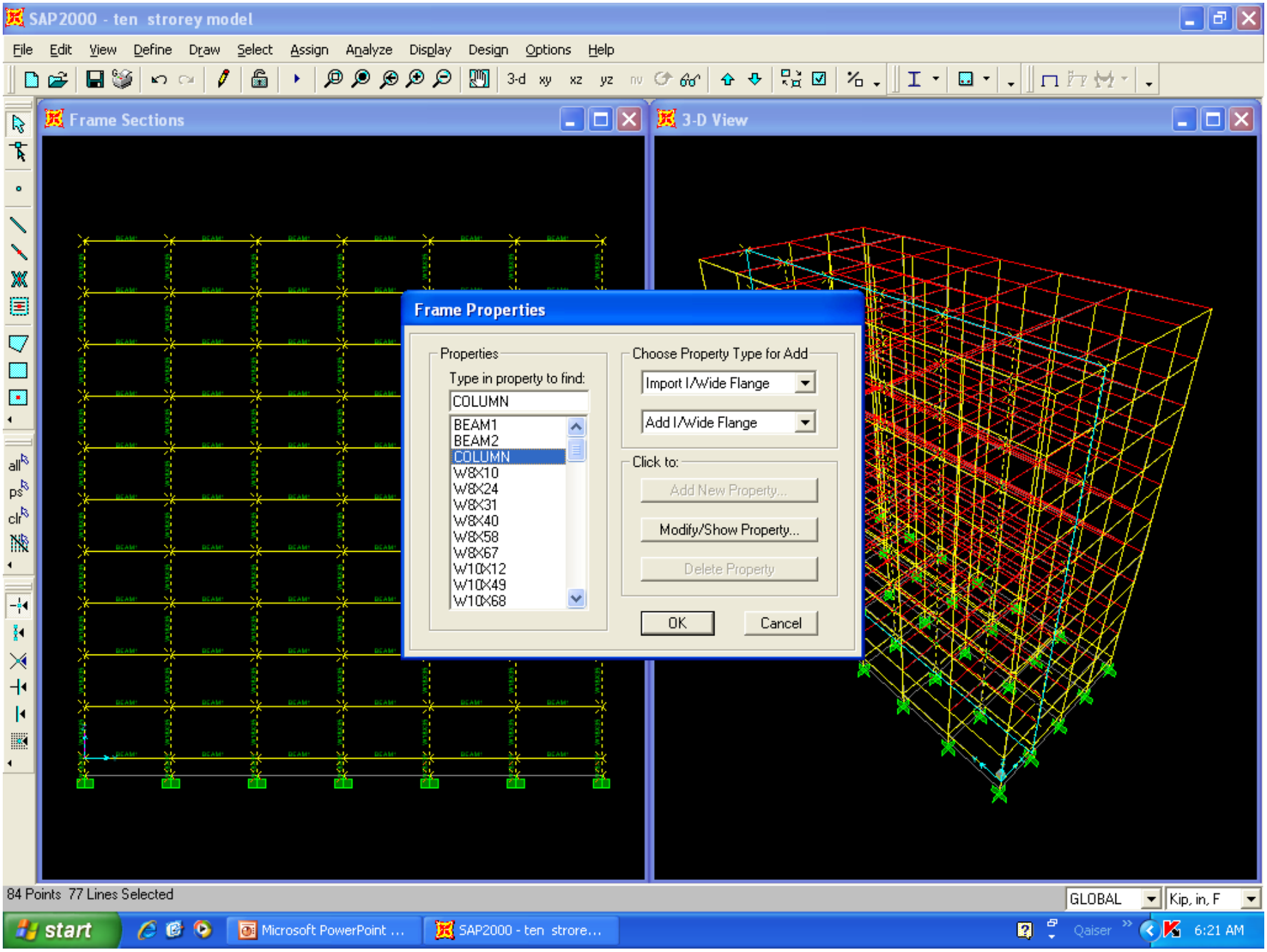

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
Frame Sections
3-D View
all ps clr
22 Lines Selected
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
CA-DOS
Qaiser
6:15 AM

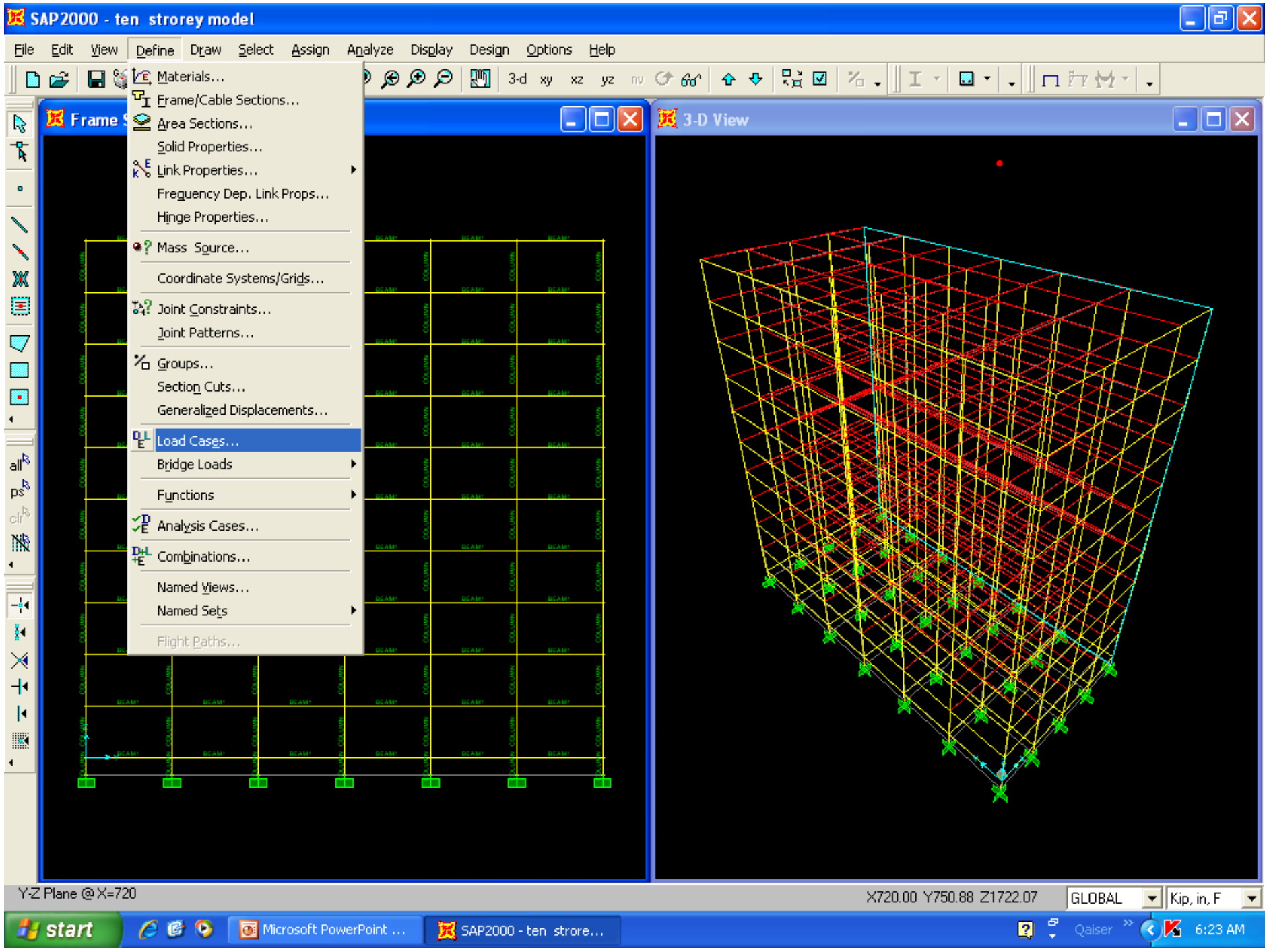

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Frame Sections
3-D View
Frame Properties
Properties
Type in property to find:
BEAM1
BEAM1
BEAM2
COLUMN
W8X10
W8X24
W8X31
W8X40
W8X58
W8X67
W10X12
W10X49
W10X68
Choose Property Type for Add
Import I/Wide Flange
Add I/Wide Flange
Click to:
Add New Property...
Modify/Show Property...
Delete Property
OK
Cancel
66 Lines Selected
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
6:16 AM

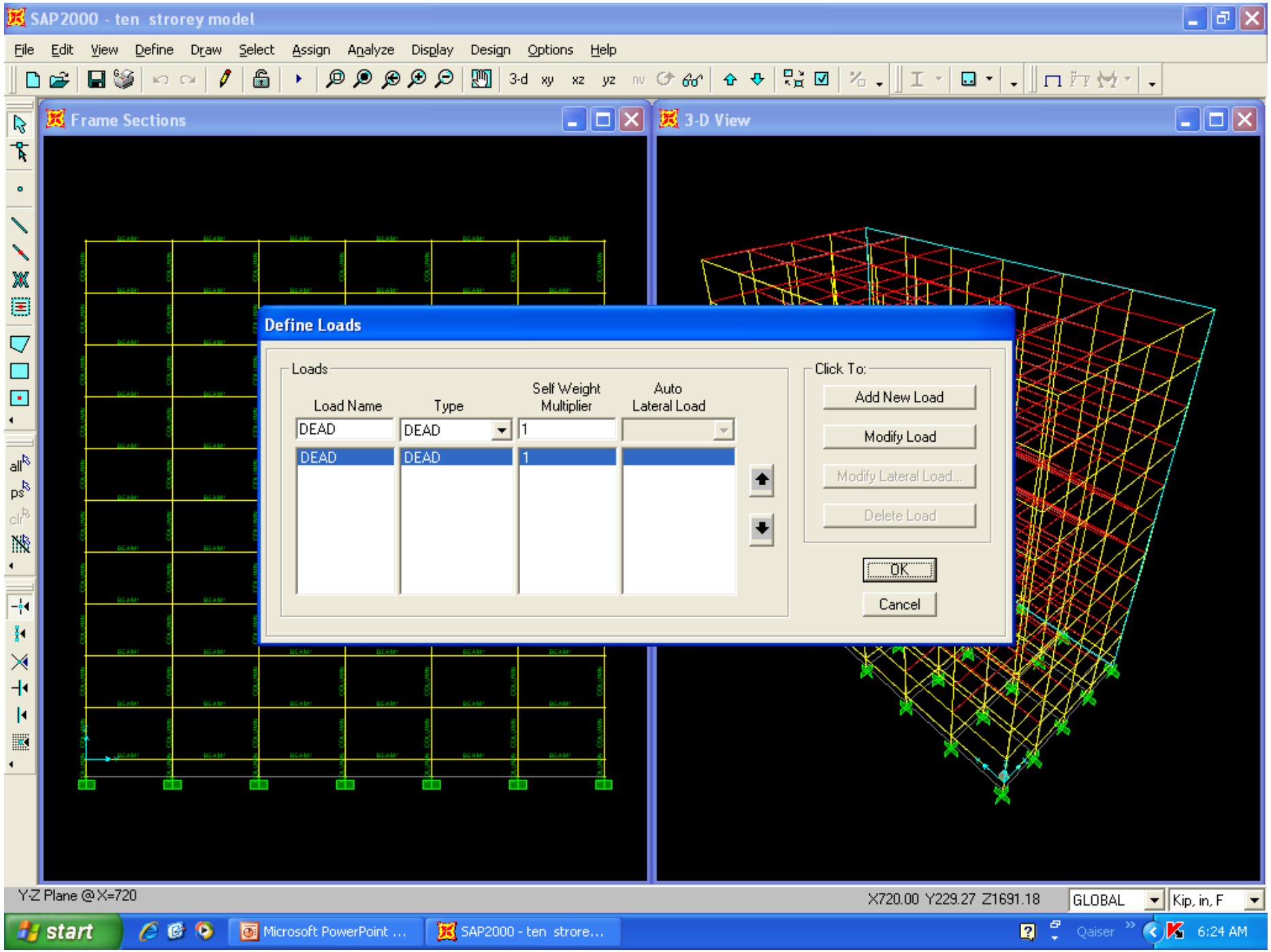

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
Frame Sections
3-D View
all ps clr
84 Points 77 Lines Selected
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
6:20 AM

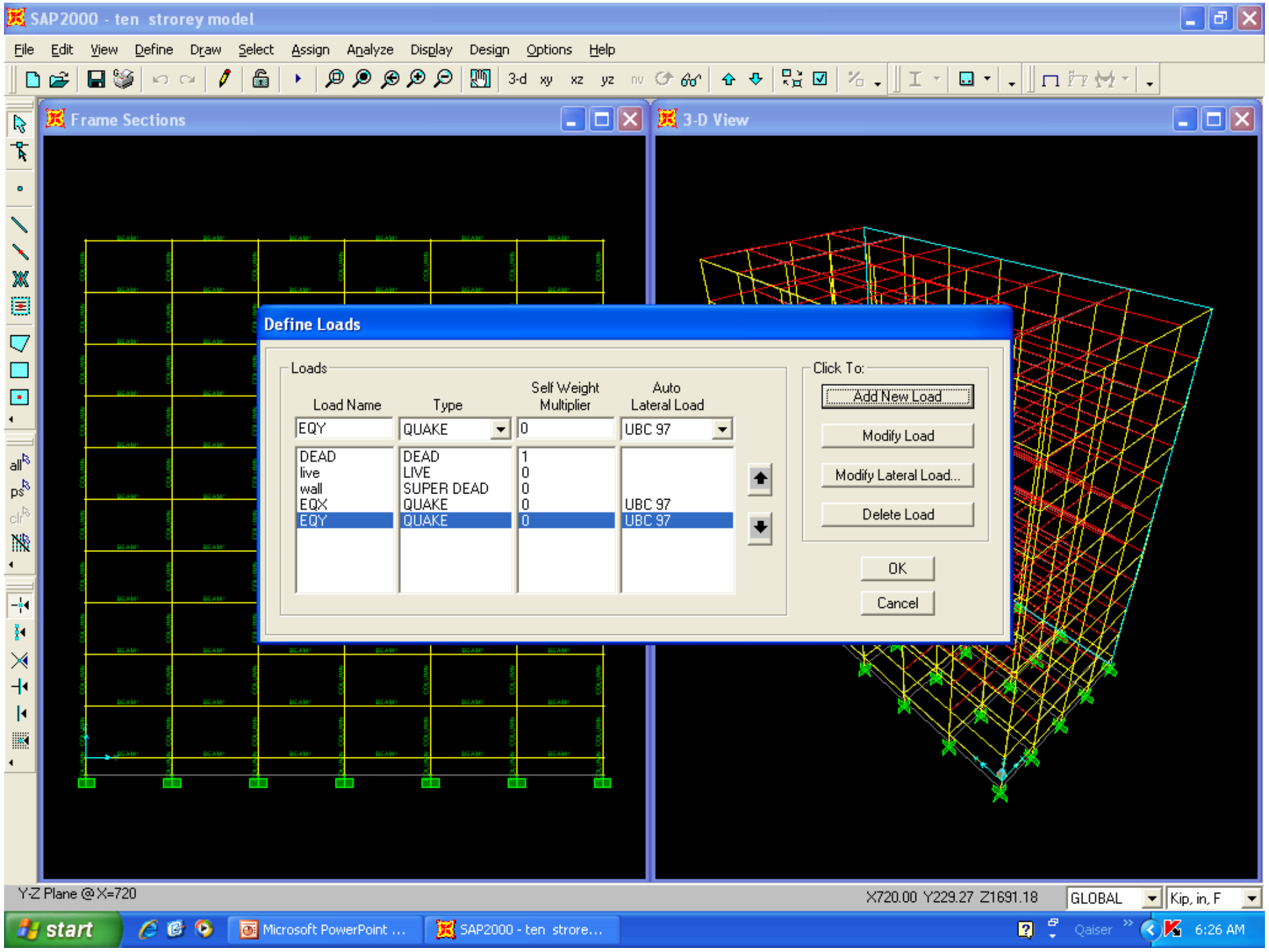

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Joint
Frame/Cable
Area
Solid
Link
Joint Loads
Frame Loads
Area Loads
Solid Loads
Link Loads
Joint Patterns...
Assign to Group...
Clear Display of Assigns
Copy Assigns
Paste Assigns
Sections...
Frame Property Modifiers...
Material Property Overwrites...
Releases/Partial Fixity...
Local Axes...
Reverse Connectivity...
End (Length) Offsets...
Insertion Point...
Output Stations...
Prestress...
P-Delta Force...
Lane...
Tension/Compression Limits...
Hinges...
Line Springs...
Line Mass...
Material Temperatures...
Automatic Frame Subdivide...
Frame Sections
84 Points 77 Lines Selected
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
6:21 AM

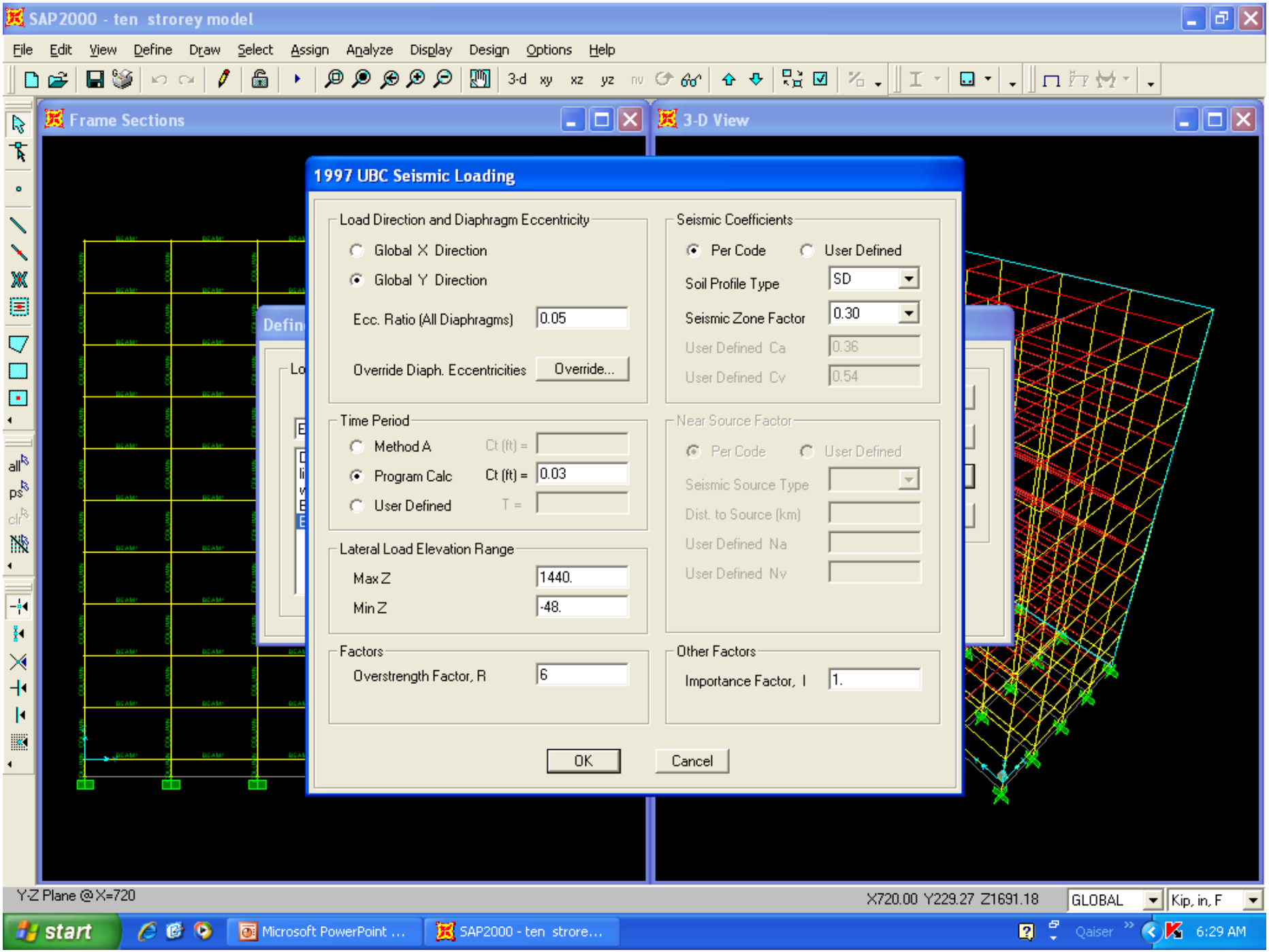

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
Frame Sections
3-D View
all ps clr
84 Points 77 Lines Selected
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
6:21 AM

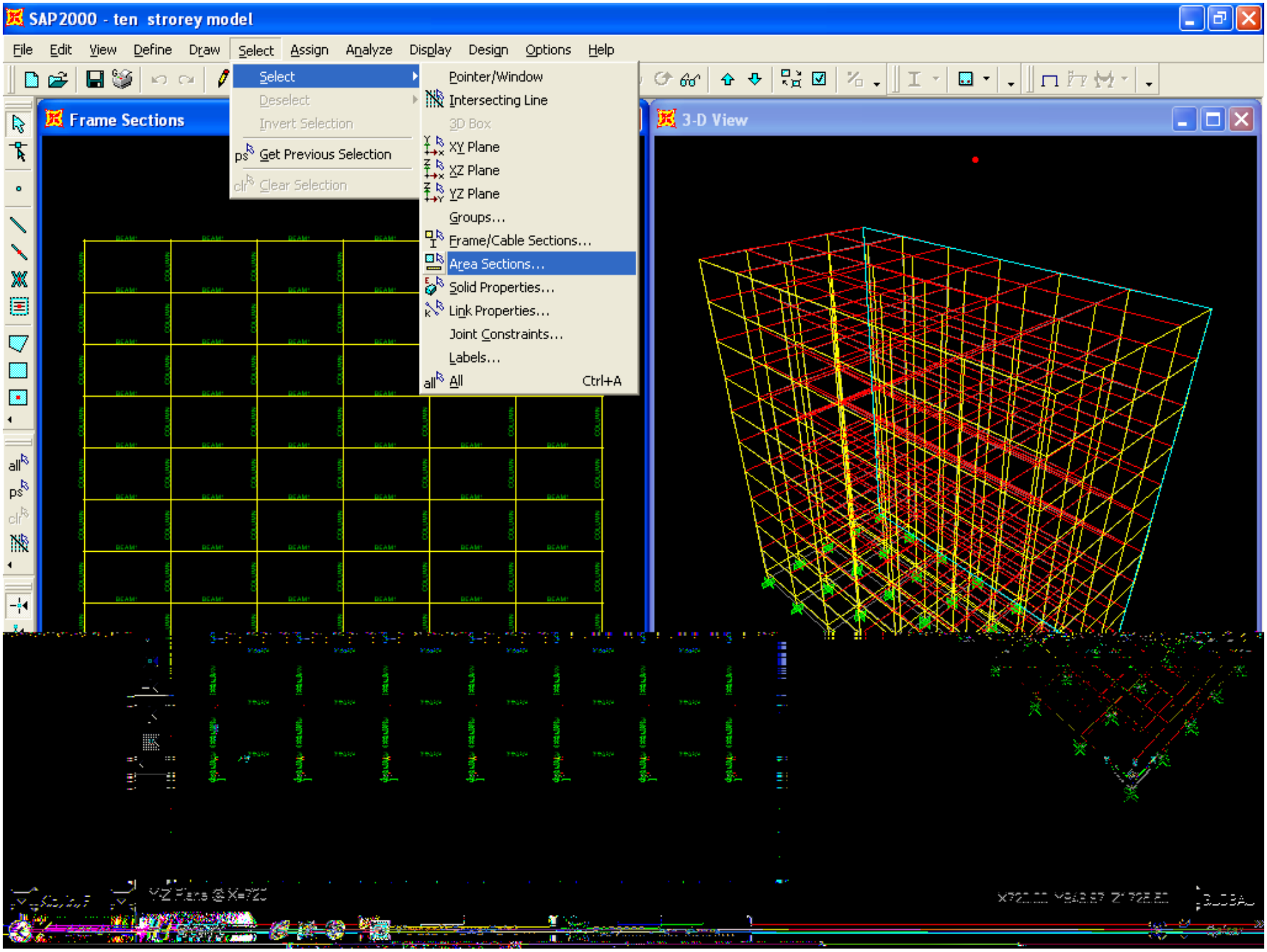

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
Frame Sections
3-D View
Frame Properties
Properties
Type in property to find:
COLUMN
BEAM1
BEAM2
COLUMN
W8X10
W8X24
W8X31
W8X40
W8X58
W8X67
W10X12
W10X49
W10X68
Choose Property Type for Add
Import I/Wide Flange
Add I/Wide Flange
Click to:
Add New Property...
Modify/Show Property...
Delete Property
OK
Cancel
84 Points 77 Lines Selected
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
6:21 AM

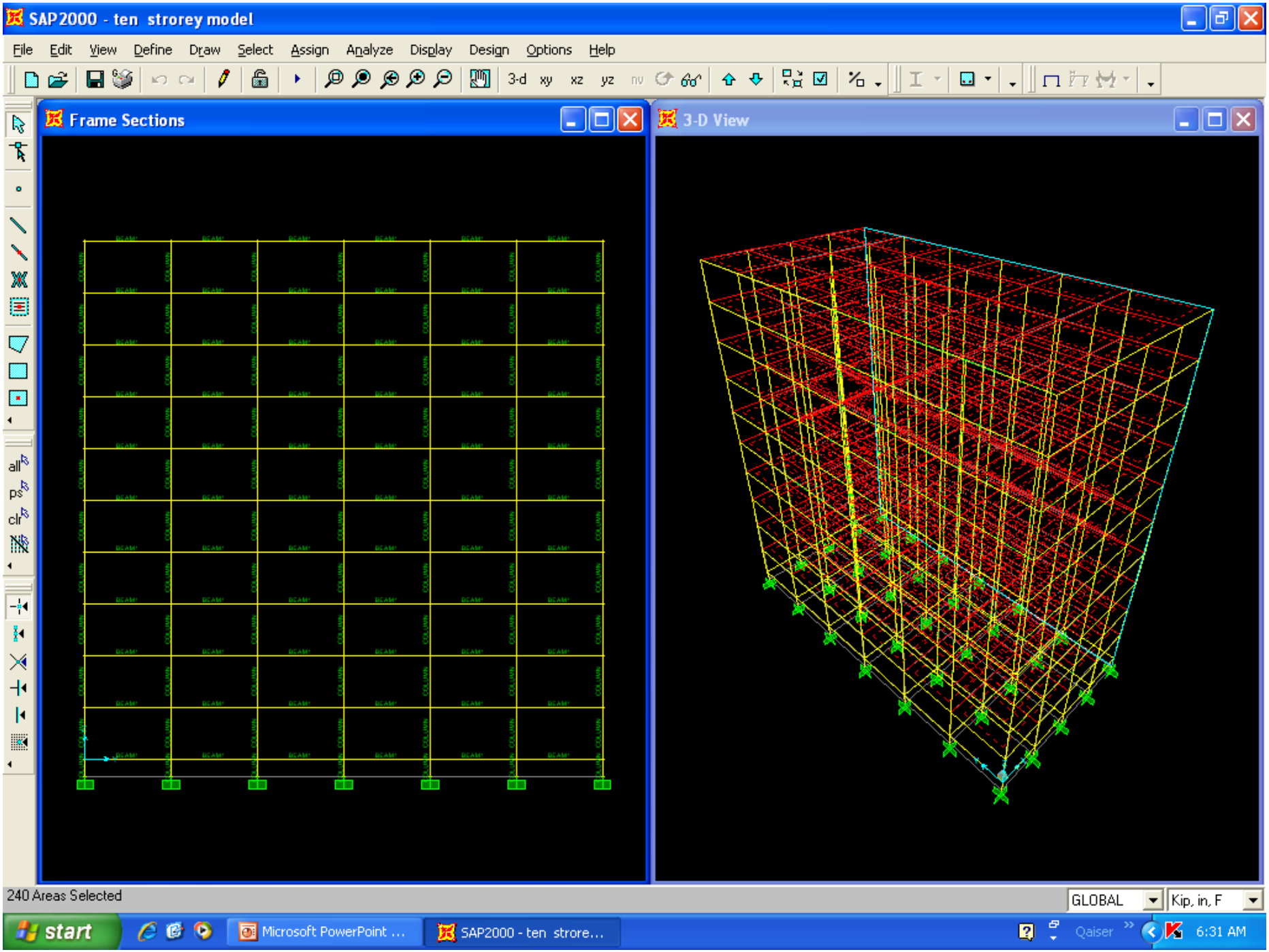

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Materials...
Frame/Cable Sections...
Area Sections...
Solid Properties...
Link Properties...
Frequency Dep. Link Props...
Hinge Properties...
Mass Source...
Coordinate Systems/Grids...
Joint Constraints...
Joint Patterns...
Groups...
Section Cuts...
Generalized Displacements...
Load Cases...
Bridge Loads
Functions
Analysis Cases...
Combinations...
Named Views...
Named Sets
Flight Paths...
3-D View
Y-Z Plane @X=720
X720.00 Y750.88 Z1722.07
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
6:23 AM

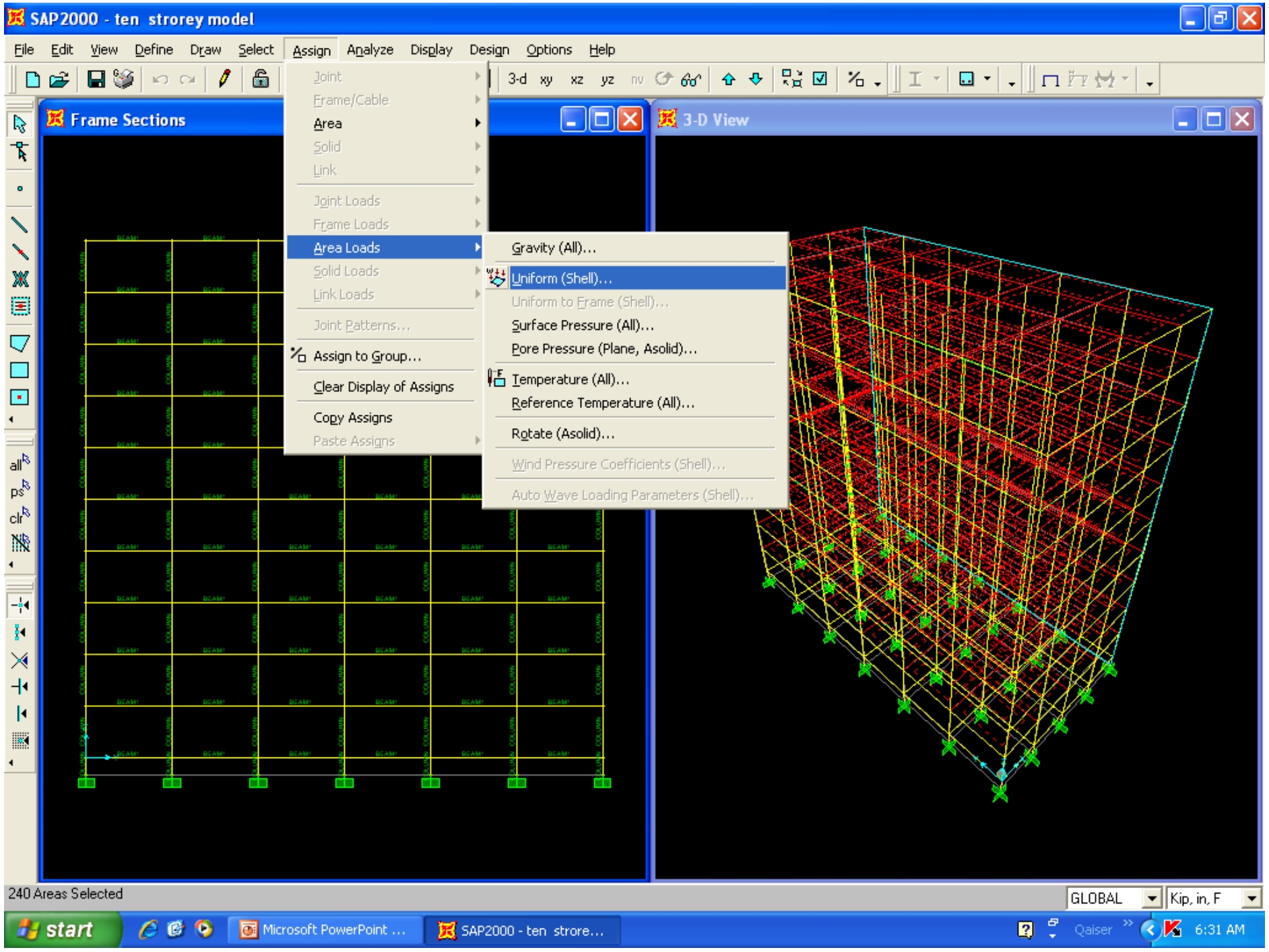

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Frame Sections
3-D View
Define Loads
Loads
Load Name
Type
Self Weight Multiplier
Auto Lateral Load
DEAD
DEAD
1
DEAD
DEAD
1
Click To:
Add New Load
Modify Load
Modify Lateral Load...
Delete Load
OK
Cancel
Y-Z Plane @X=720
X720.00 Y229.27 Z1691.18
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
6:24 AM

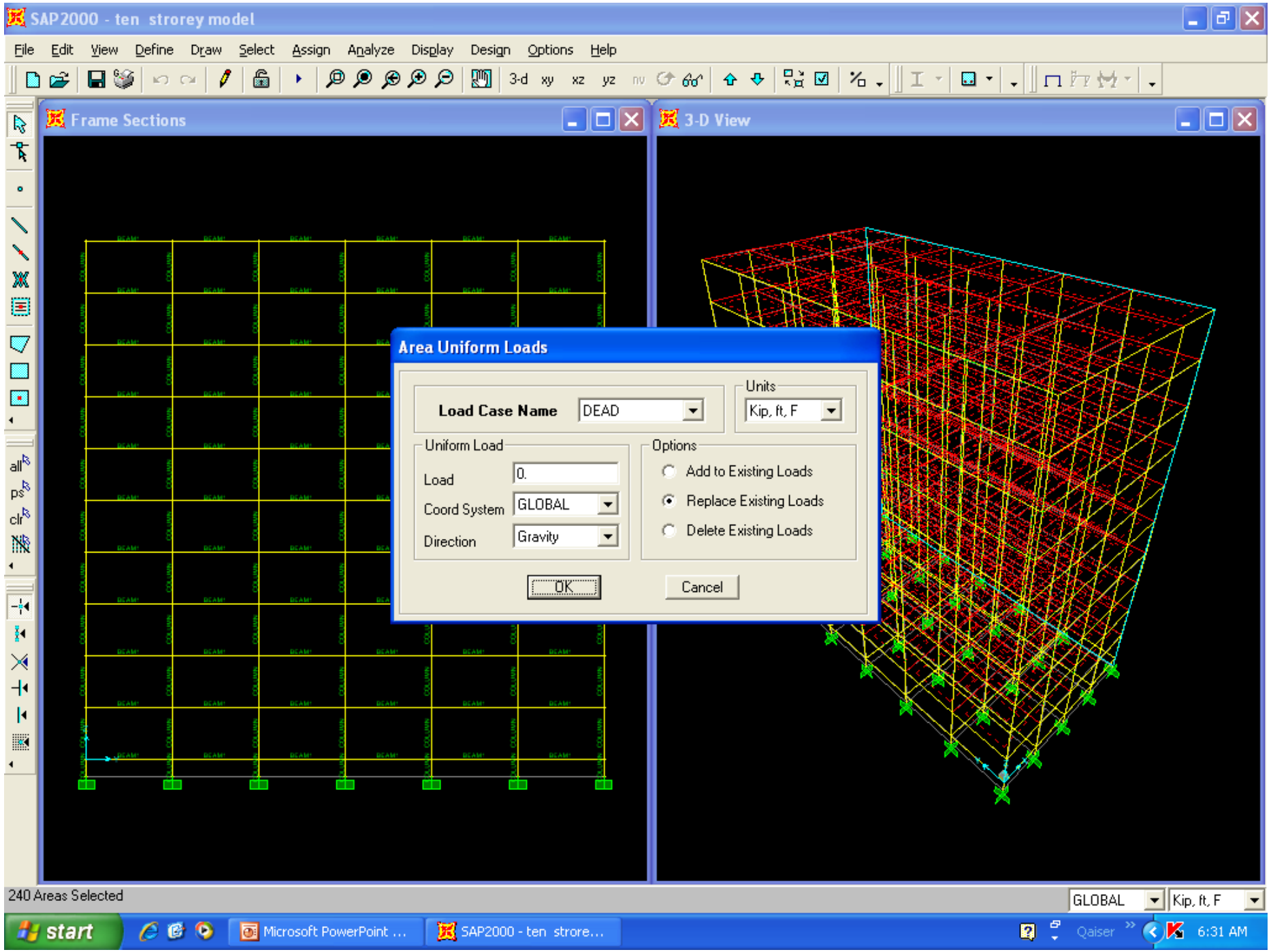

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Frame Sections
3-D View
Define Loads
Loads
Load Name
Type
Self Weight Multiplier
Auto Lateral Load
EQY
QUAKE
0
UBC 97
DEAD DEAD 1
live LIVE 0
wall SUPER DEAD 0
EQX QUAKE 0 UBC 97
EQY QUAKE 0 UBC 97
Click To:
Add New Load
Modify Load
Modify Lateral Load...
Delete Load
OK
Cancel
Y-Z Plane @X=720
X720.00 Y229.27 Z1691.18
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
6:26 AM

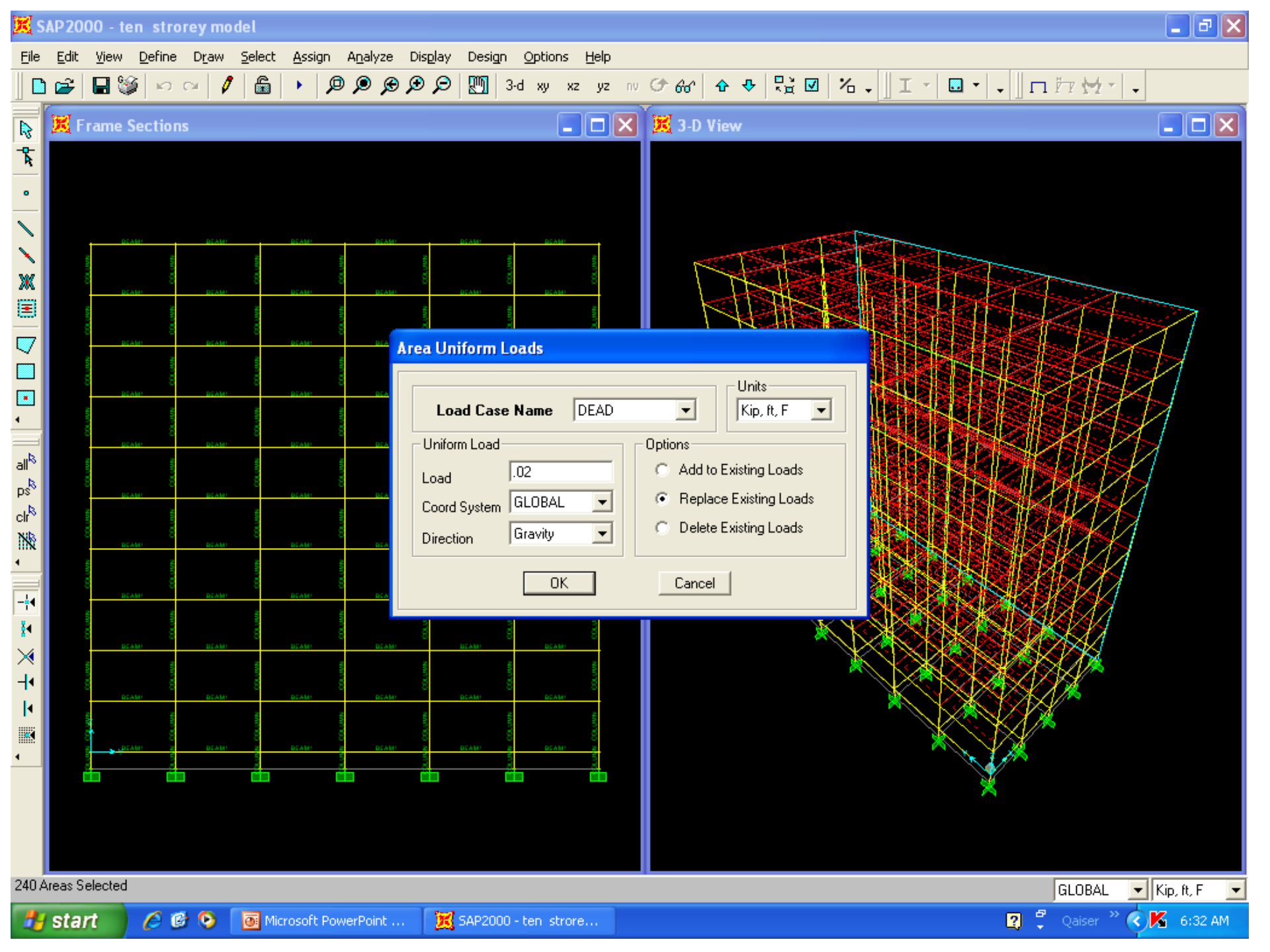

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Frame Sections
3-D View
1997 UBC Seismic Loading
Load Direction and Diaphragm Eccentricity
Global X Direction
Global Y Direction
Ecc. Ratio (All Diaphragms) 0.05
Override Diaph. Eccentricities Override...
Seismic Coefficients
Per Code
User Defined
Soil Profile Type SD
Seismic Zone Factor 0.30
User Defined Ca 0.36
User Defined Cv 0.54
Time Period
Method A Ct (ft) =
Program Calc Ct (ft) = 0.03
User Defined T =
Near Source Factor
Per Code
User Defined
Seismic Source Type
Dist. to Source (km)
User Defined Na
User Defined Nv
Lateral Load Elevation Range
Max Z 1440.
Min Z -48.
Factors
Overstrength Factor, R 6
Other Factors
Importance Factor, I 1.
OK
Cancel
Y-Z Plane @X=720
X720.00 Y229.27 Z1691.18
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
6:29 AM

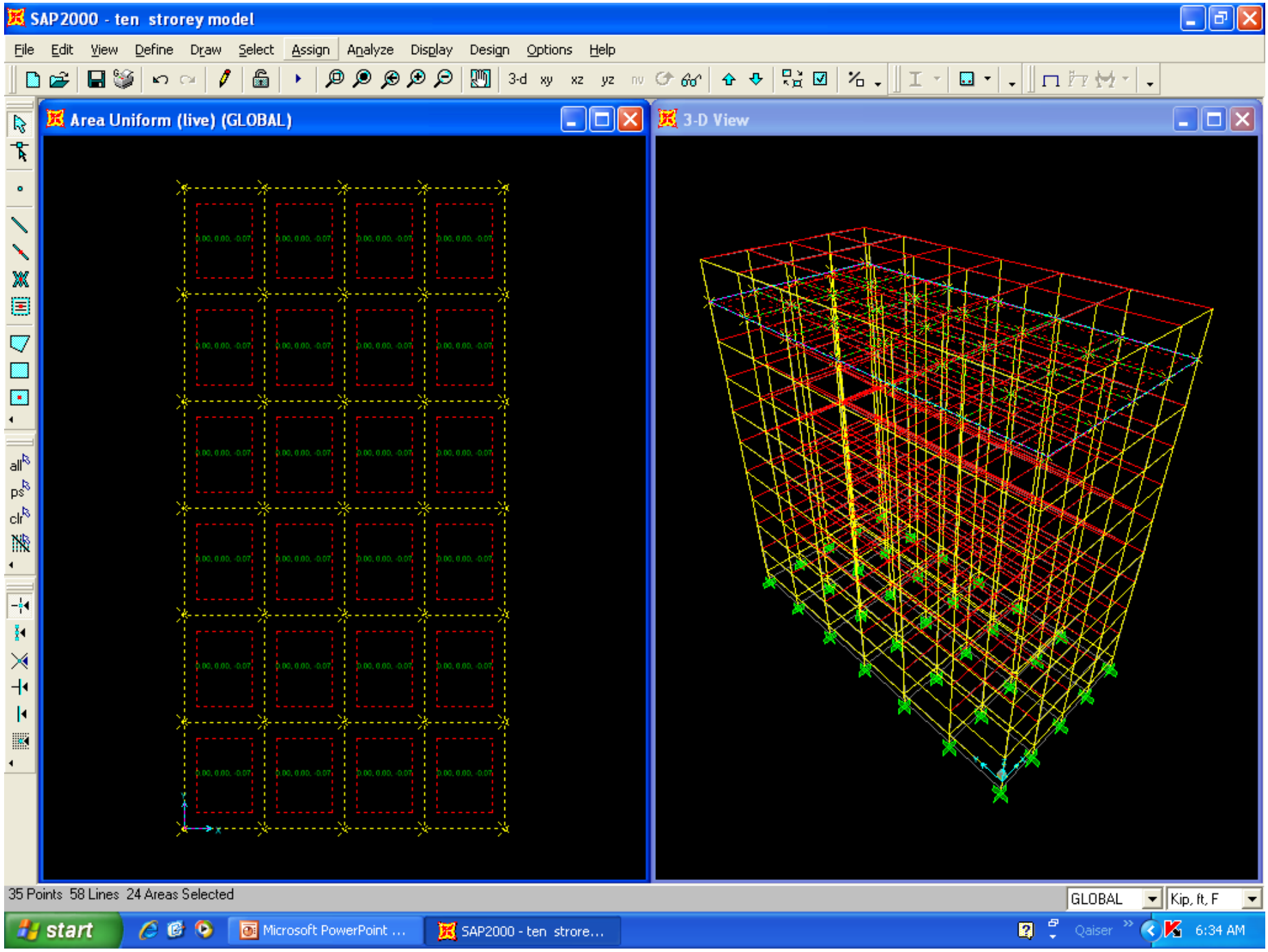

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Select
Deselect
Invert Selection
Get Previous Selection
Clear Selection
Pointer/Window
Intersecting Line
3D Box
XY Plane
XZ Plane
YZ Plane
Groups...
Frame/Cable Sections...
Area Sections...
Solid Properties...
Link Properties...
Joint Constraints...
Labels...
All Ctrl+A
Frame Sections
3-D View

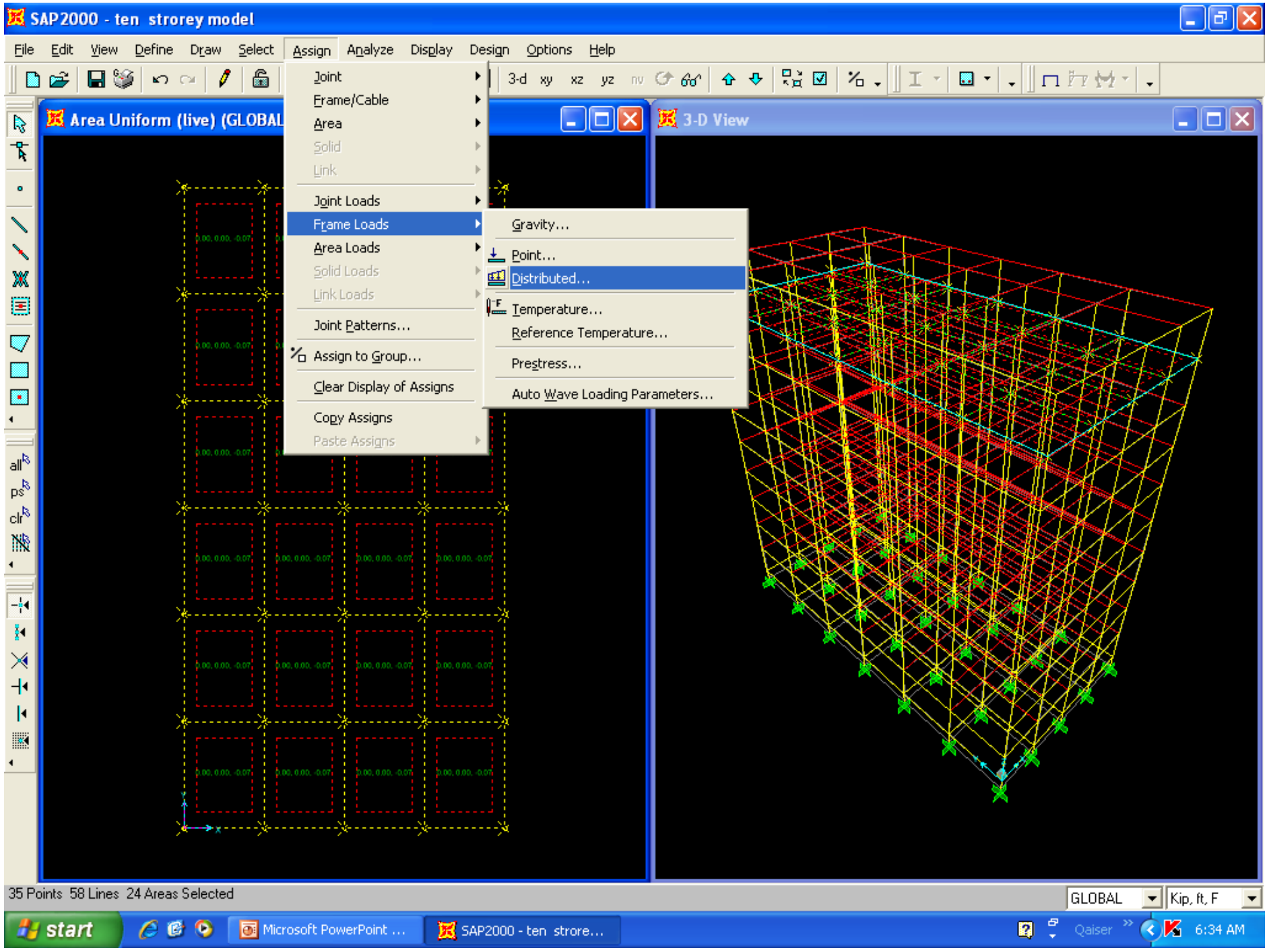

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz
Frame Sections
3-D View
240 Areas Selected
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
6:31 AM

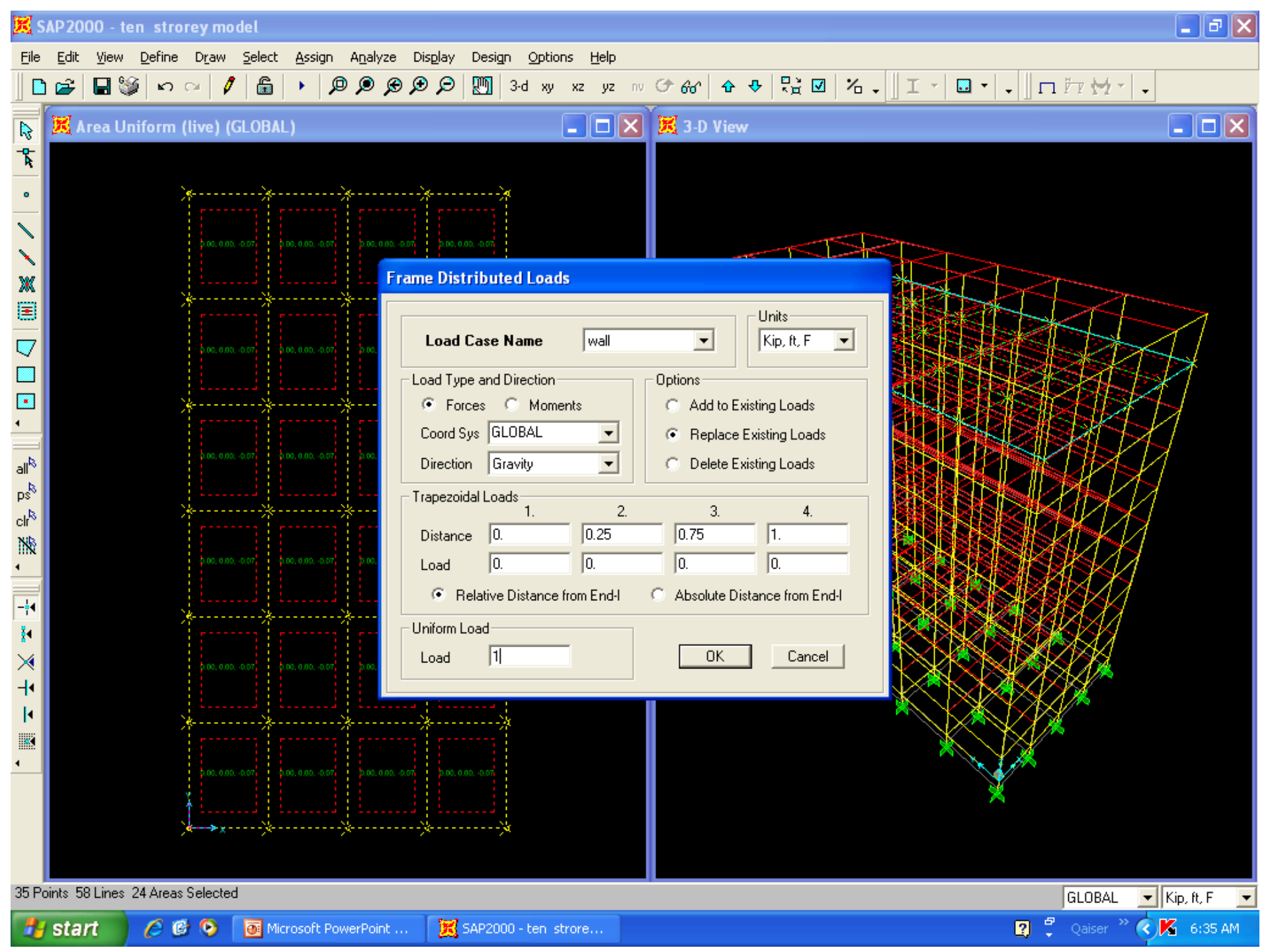

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Joint
Frame/Cable
Area
Solid
Link
Joint Loads
Frame Loads
Area Loads
Solid Loads
Link Loads
Joint Patterns...
Assign to Group...
Clear Display of Assigns
Copy Assigns
Paste Assigns
Gravity (All)...
Uniform (Shell)...
Uniform to Frame (Shell)...
Surface Pressure (All)...
Pore Pressure (Plane, Asolid)...
Temperature (All)...
Reference Temperature (All)...
Rotate (Asolid)...
Wind Pressure Coefficients (Shell)...
Auto Wave Loading Parameters (Shell)...
Frame Sections
3-D View
240 Areas Selected
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
6:31 AM

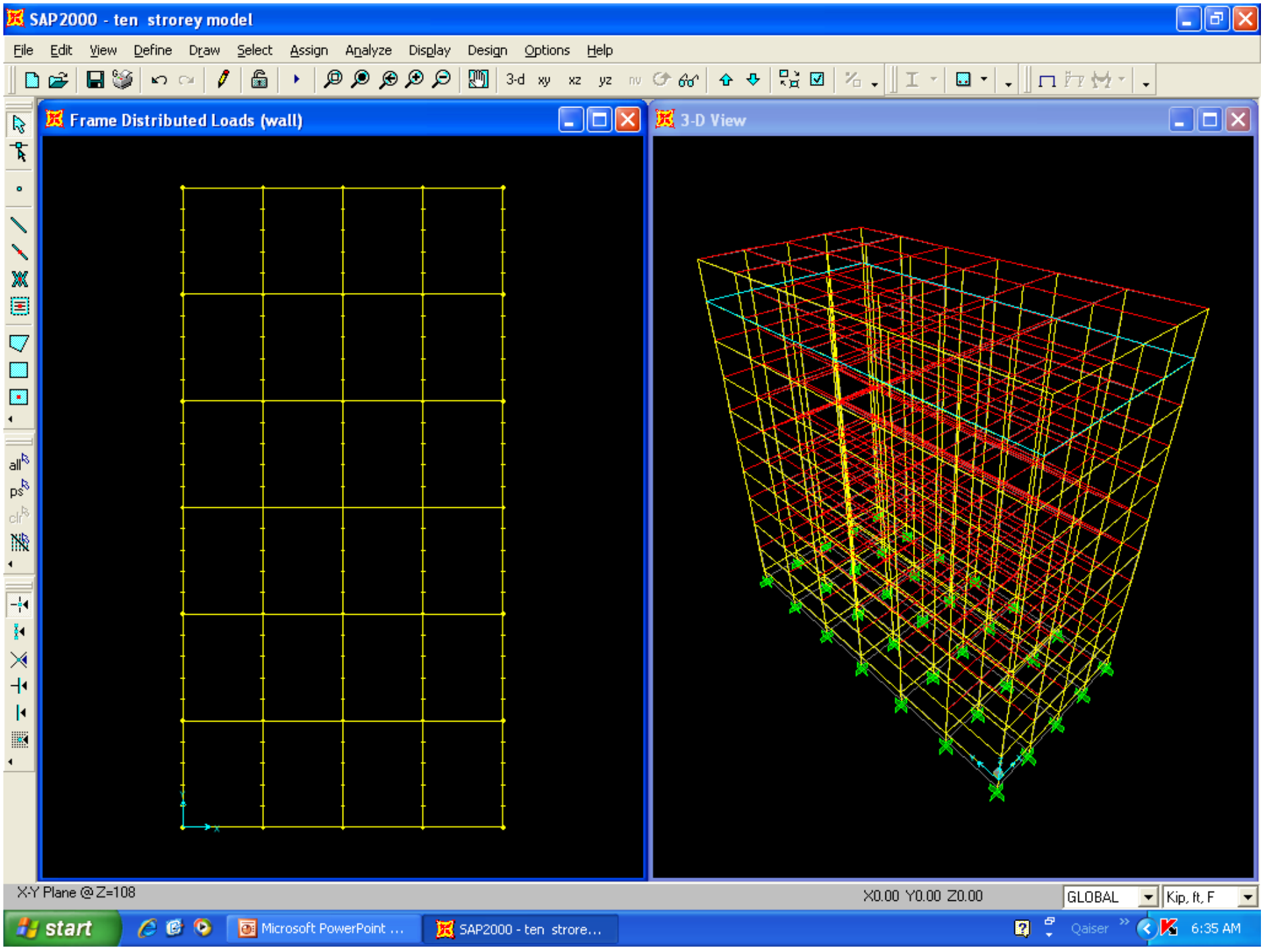

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz
Frame Sections
3-D View
Area Uniform Loads
Load Case Name
DEAD
Units
Kip, ft, F
Uniform Load
Load
0.
Coord System
GLOBAL
Direction
Gravity
Options
Add to Existing Loads
Replace Existing Loads
Delete Existing Loads
OK
Cancel
240 Areas Selected
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
6:31 AM

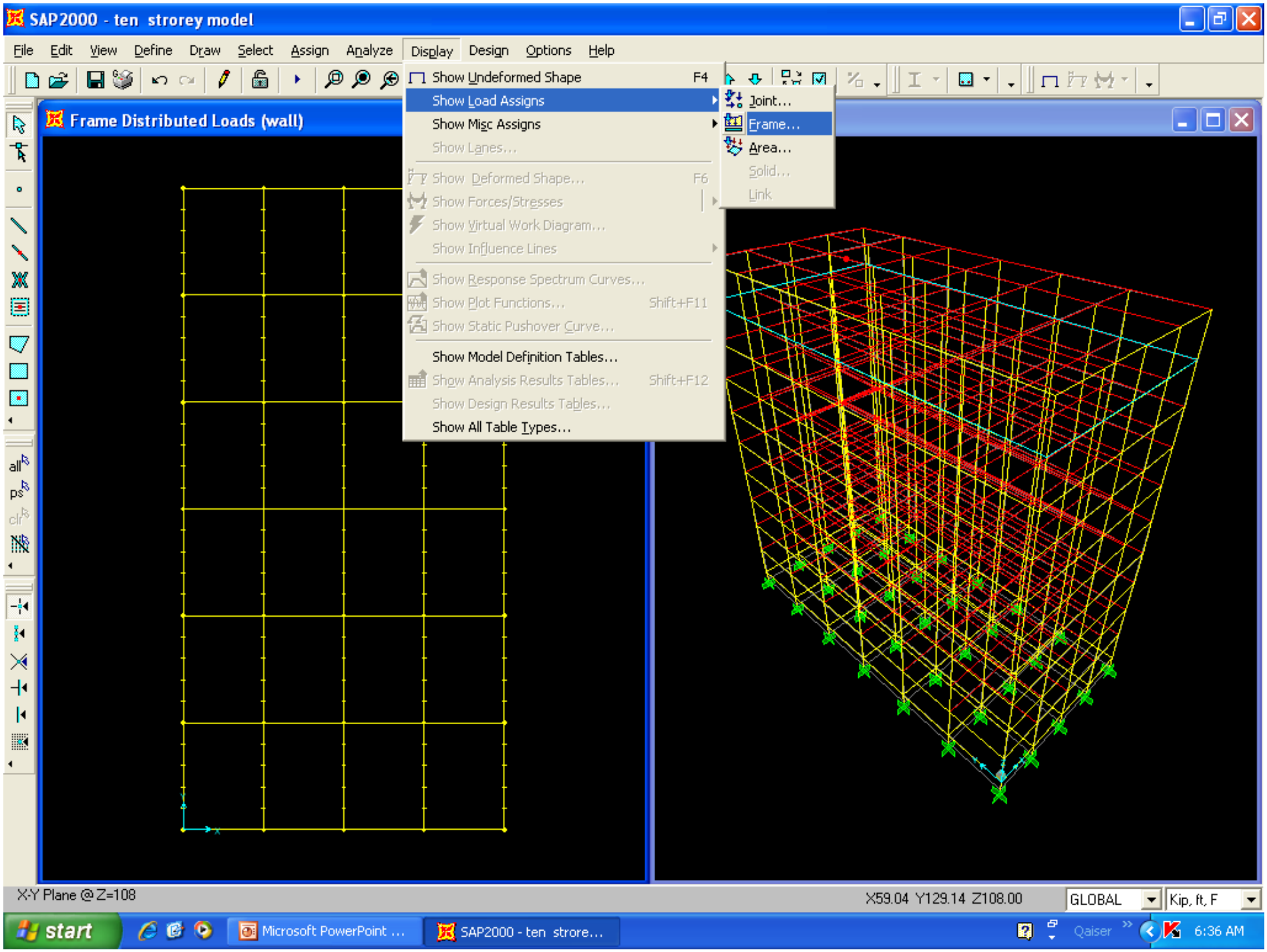

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Frame Sections
3-D View
Area Uniform Loads
Load Case Name
DEAD
Units
Kip, ft, F
Uniform Load
Load
.02
Coord System
GLOBAL
Direction
Gravity
Options
Add to Existing Loads
Replace Existing Loads
Delete Existing Loads
OK
Cancel
240 Areas Selected
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
6:32 AM

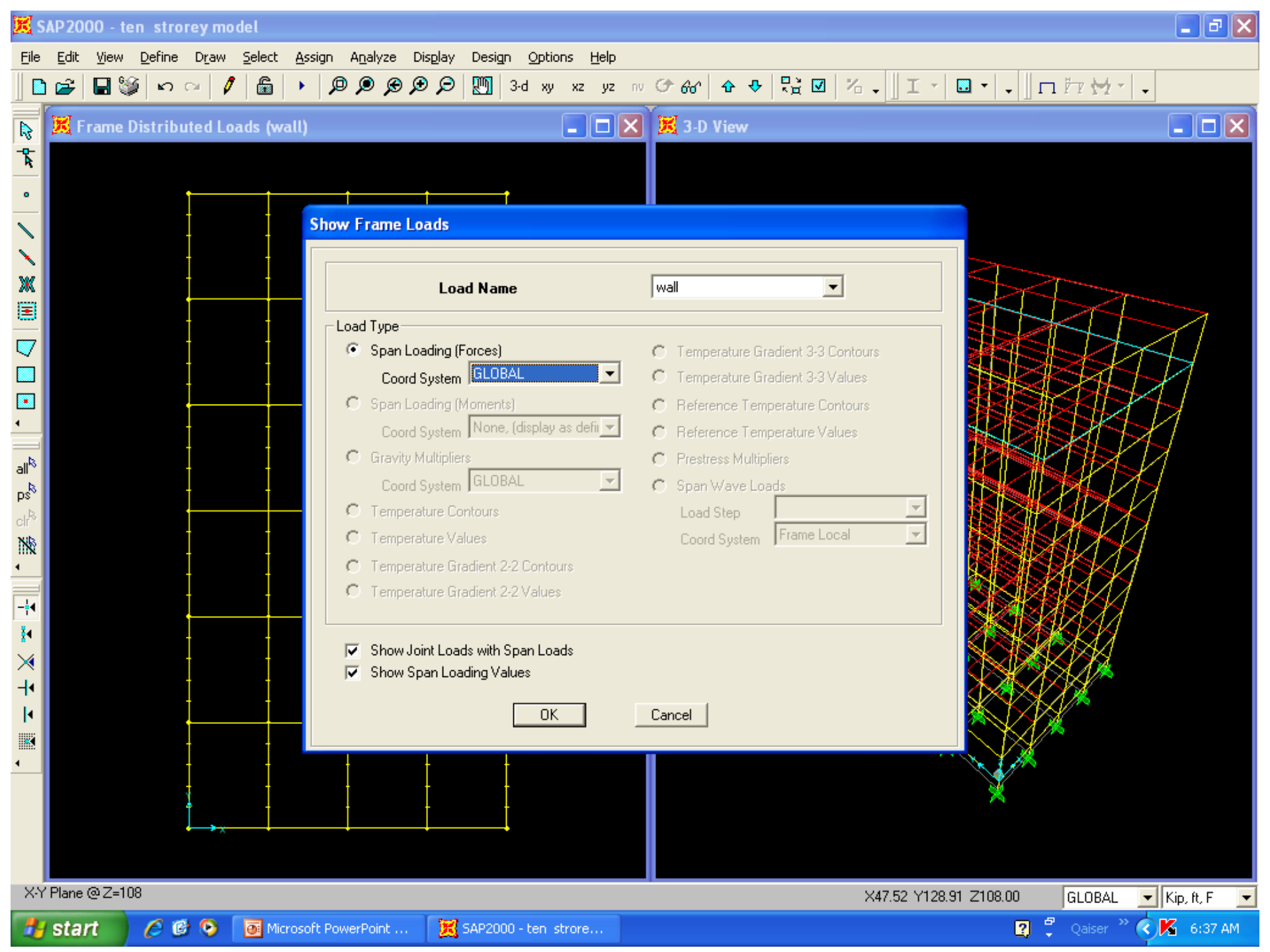

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
Area Uniform (live) (GLOBAL)
3-D View
35 Points 58 Lines 24 Areas Selected
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
6:34 AM

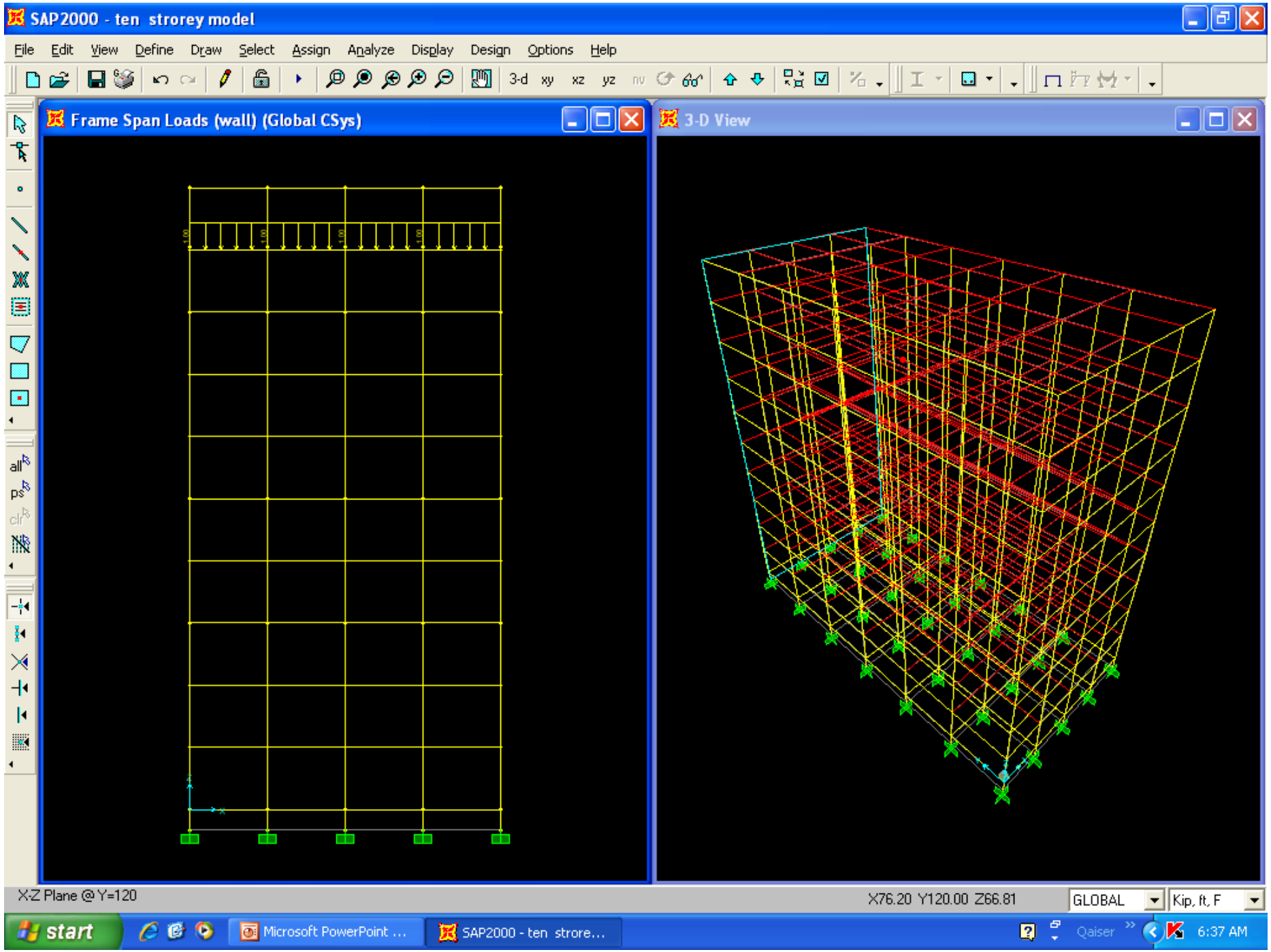

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Joint
Frame/Cable
Area
Solid
Link
Joint Loads
Frame Loads
Area Loads
Solid Loads
Link Loads
Joint Patterns...
Assign to Group...
Clear Display of Assigns
Copy Assigns
Paste Assigns
Gravity...
Point...
Distributed...
Temperature...
Reference Temperature...
Prestress...
Auto Wave Loading Parameters...
Area Uniform (live) (GLOBAL
3-D View
35 Points 58 Lines 24 Areas Selected
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
6:34 AM

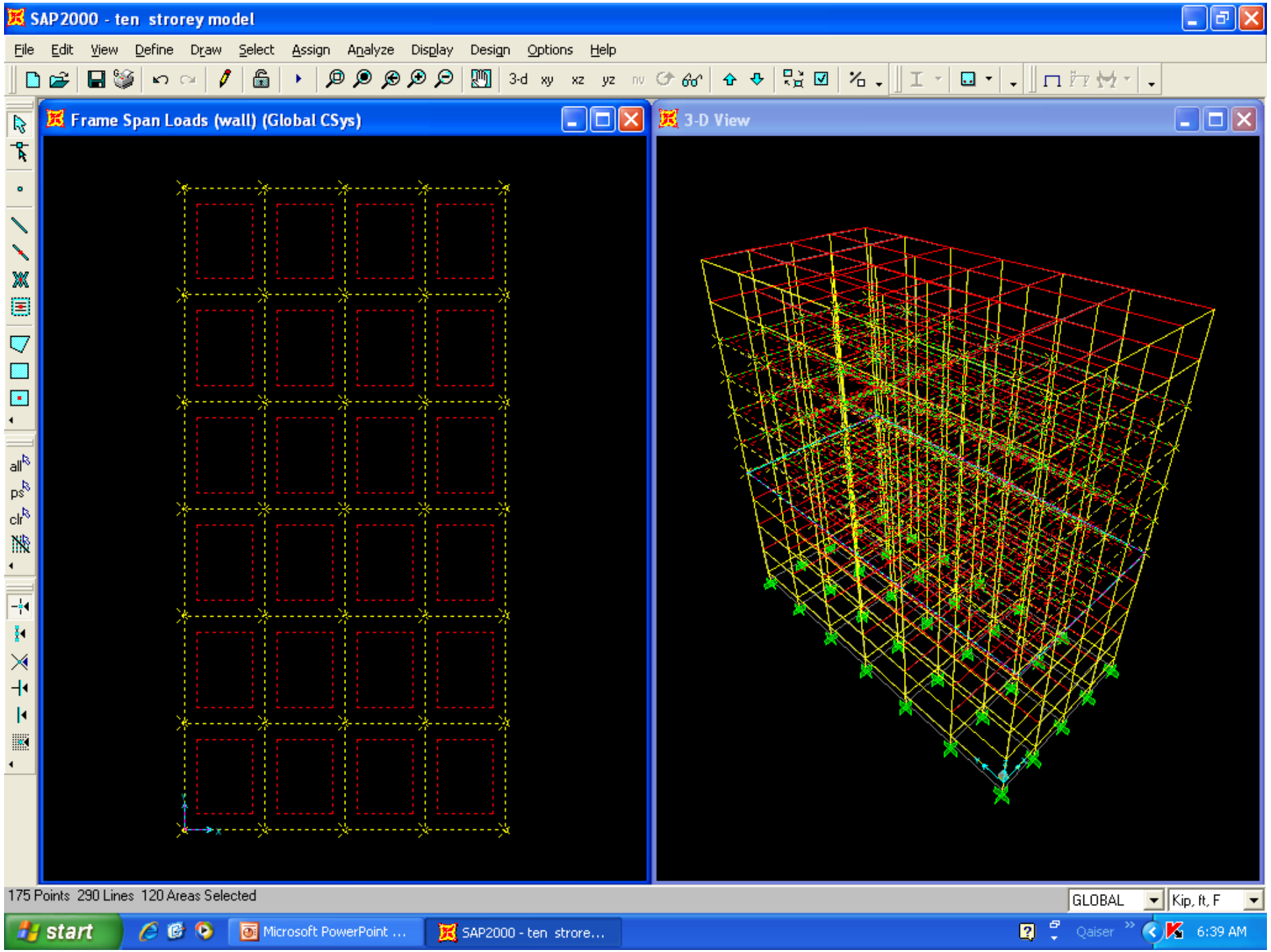

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Area Uniform (live) (GLOBAL)
3-D View
Frame Distributed Loads
Load Case Name
wall
Units
Kip, ft, F
Load Type and Direction
Forces
Moments
Coord Sys
GLOBAL
Direction
Gravity
Options
Add to Existing Loads
Replace Existing Loads
Delete Existing Loads
Trapezoidal Loads
1.
2.
3.
4.
Distance
0.
0.25
0.75
1.
Load
0.
0.
0.
0.
Relative Distance from End-I
Absolute Distance from End-I
Uniform Load
Load
1
OK
Cancel
35 Points 58 Lines 24 Areas Selected
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
6:35 AM

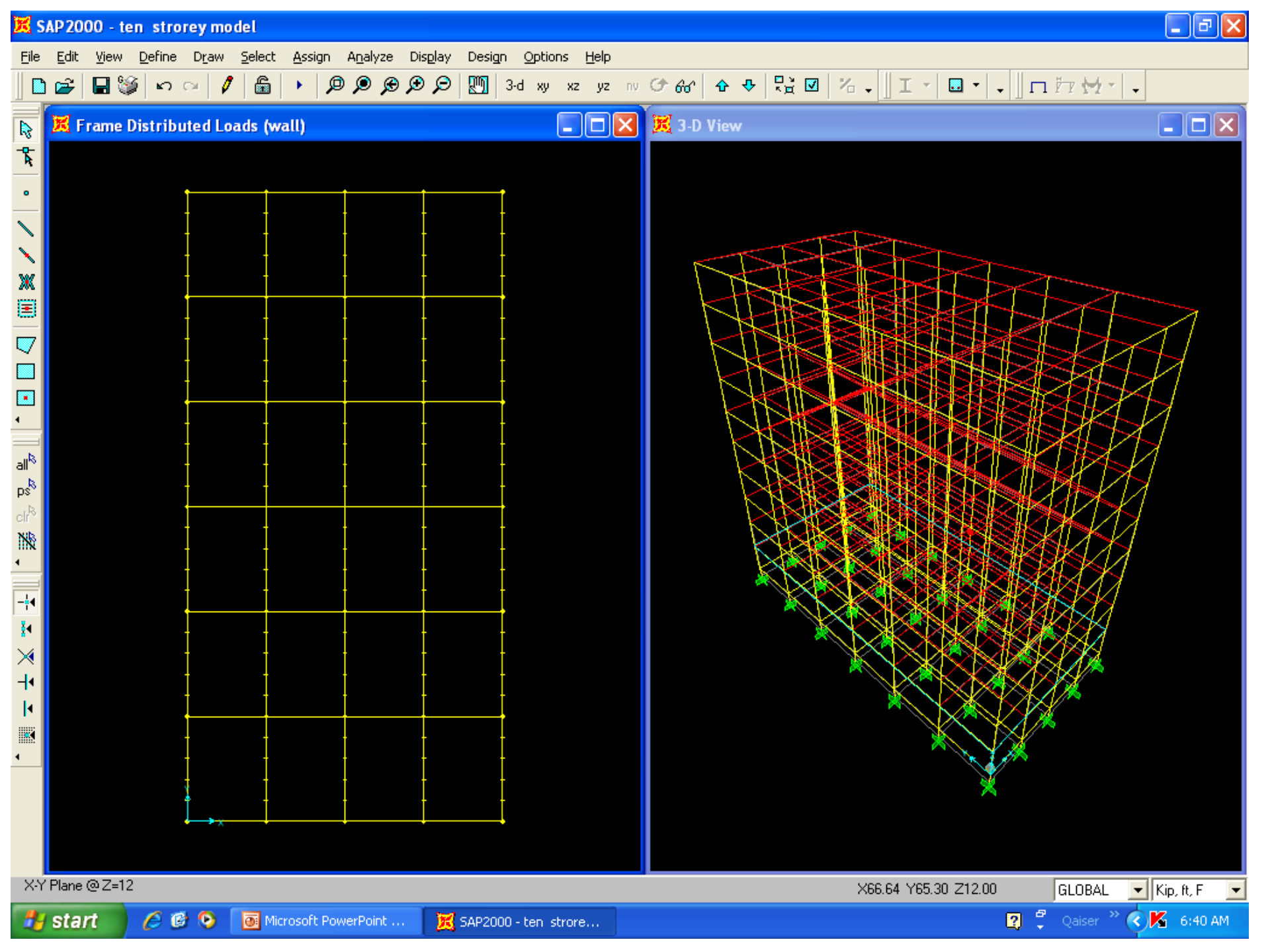

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
Frame Distributed Loads (wall)
3-D View
X-Y Plane @ Z=108
X0.00 Y0.00 Z0.00
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
6:35 AM

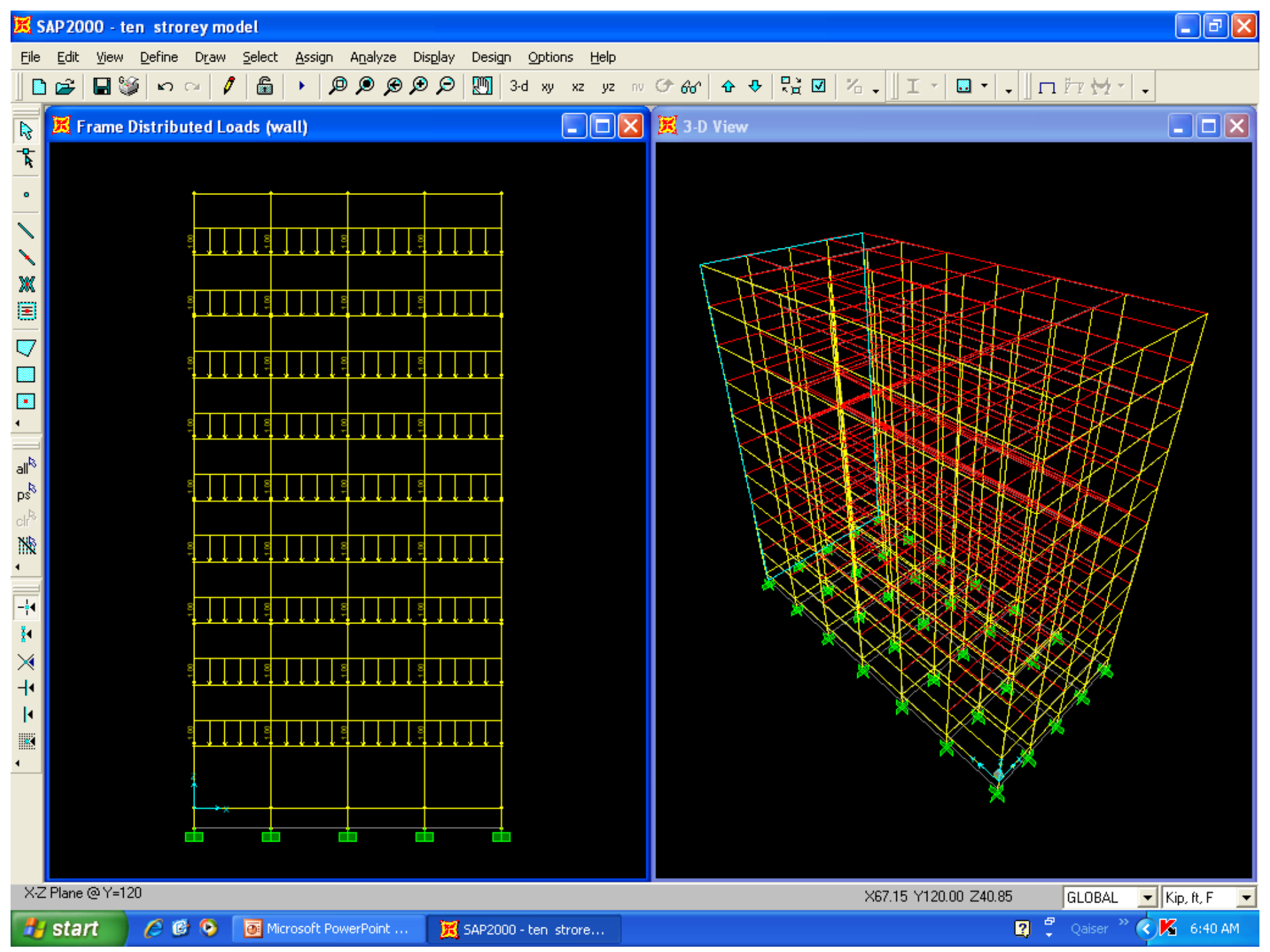

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Show Undeformed Shape F4
Show Load Assigns
Show Misc Assigns
Show Lanes...
Show Deformed Shape... F6
Show Forces/Stresses
Show Virtual Work Diagram...
Show Influence Lines
Show Response Spectrum Curves...
Show Plot Functions... Shift+F11
Show Static Pushover Curve...
Show Model Definition Tables...
Show Analysis Results Tables... Shift+F12
Show Design Results Tables...
Show All Table Types...
Joint...
Frame...
Area...
Solid...
Link
Frame Distributed Loads (wall)
X-Y Plane @ Z=108
X59.04 Y129.14 Z108.00
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
6:36 AM

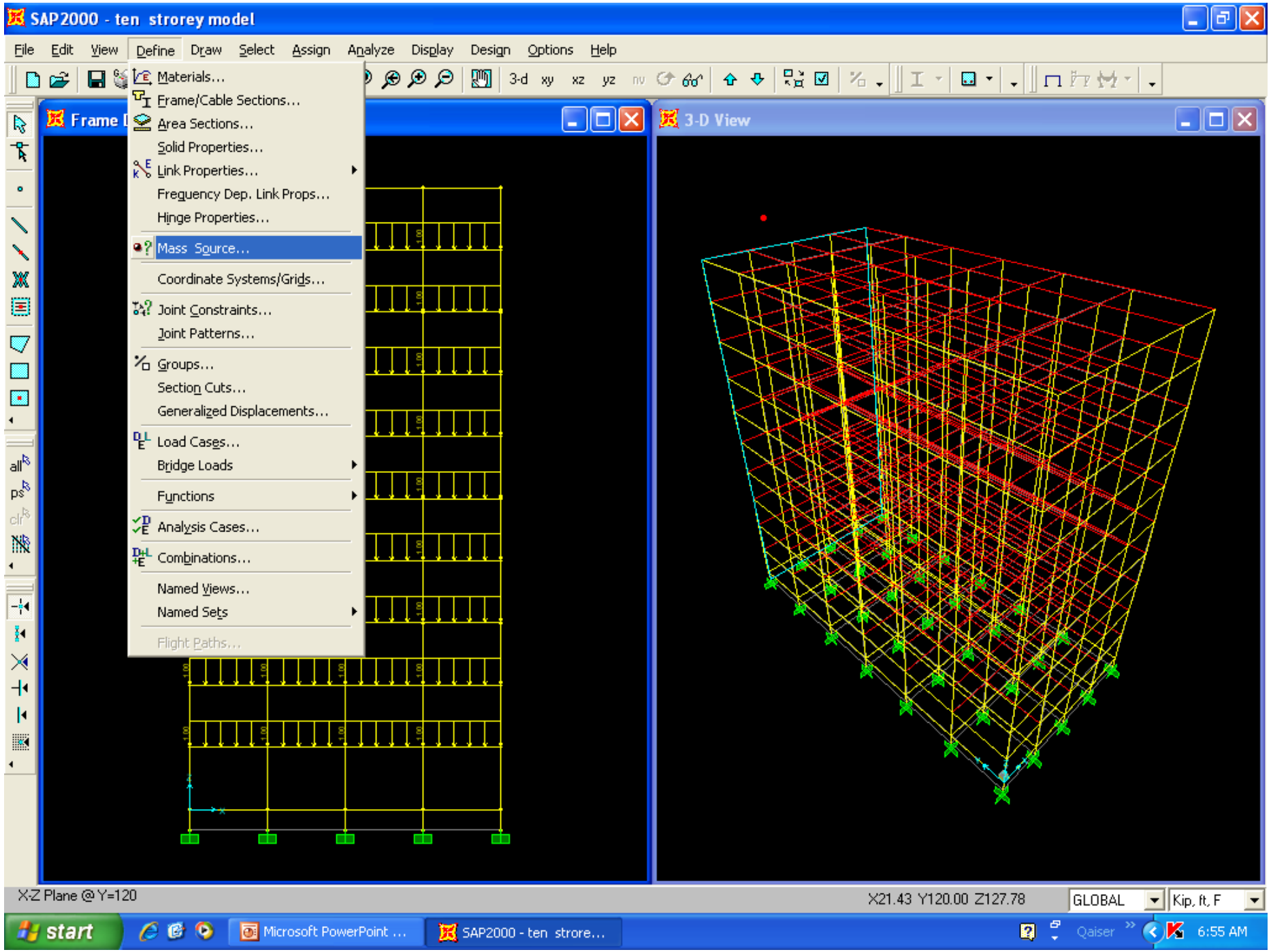

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Frame Distributed Loads (wall)
3-D View
Show Frame Loads
Load Name
wall
Load Type
Span Loading (Forces)
Coord System
GLOBAL
Span Loading (Moments)
Coord System
None, (display as defi
Gravity Multipliers
Coord System
GLOBAL
Temperature Contours
Temperature Values
Temperature Gradient 2-2 Contours
Temperature Gradient 2-2 Values
Temperature Gradient 3-3 Contours
Temperature Gradient 3-3 Values
Reference Temperature Contours
Reference Temperature Values
Prestress Multipliers
Span Wave Loads
Load Step
Coord System
Frame Local
Show Joint Loads with Span Loads
Show Span Loading Values
OK
Cancel
X-Y Plane @ Z=108
X47.52 Y128.91 Z108.00
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
6:37 AM

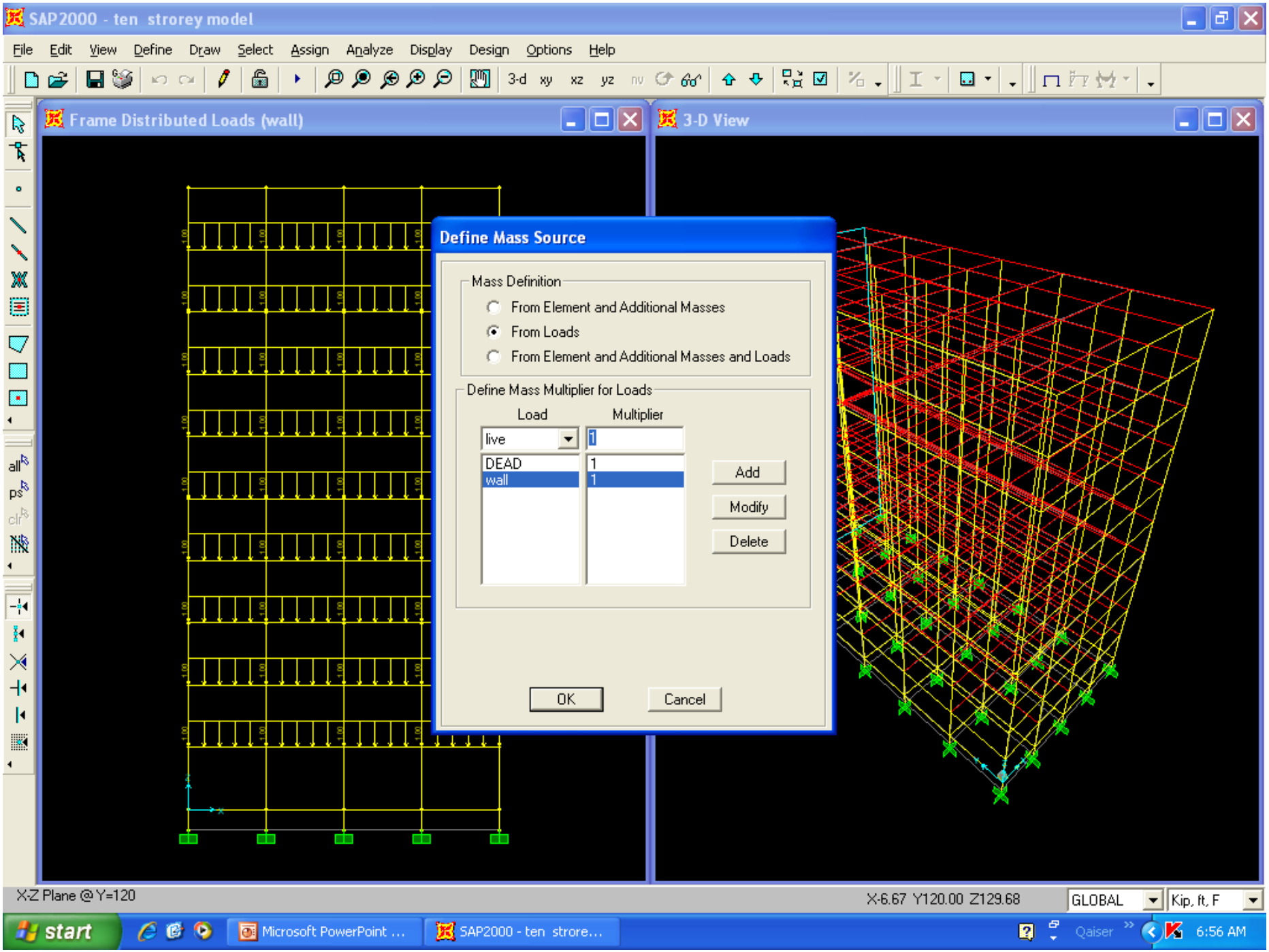

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz
Frame Span Loads (wall) (Global CSys)
3-D View
X-Z Plane @ Y=120
X76.20 Y120.00 Z66.81
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
6:37 AM

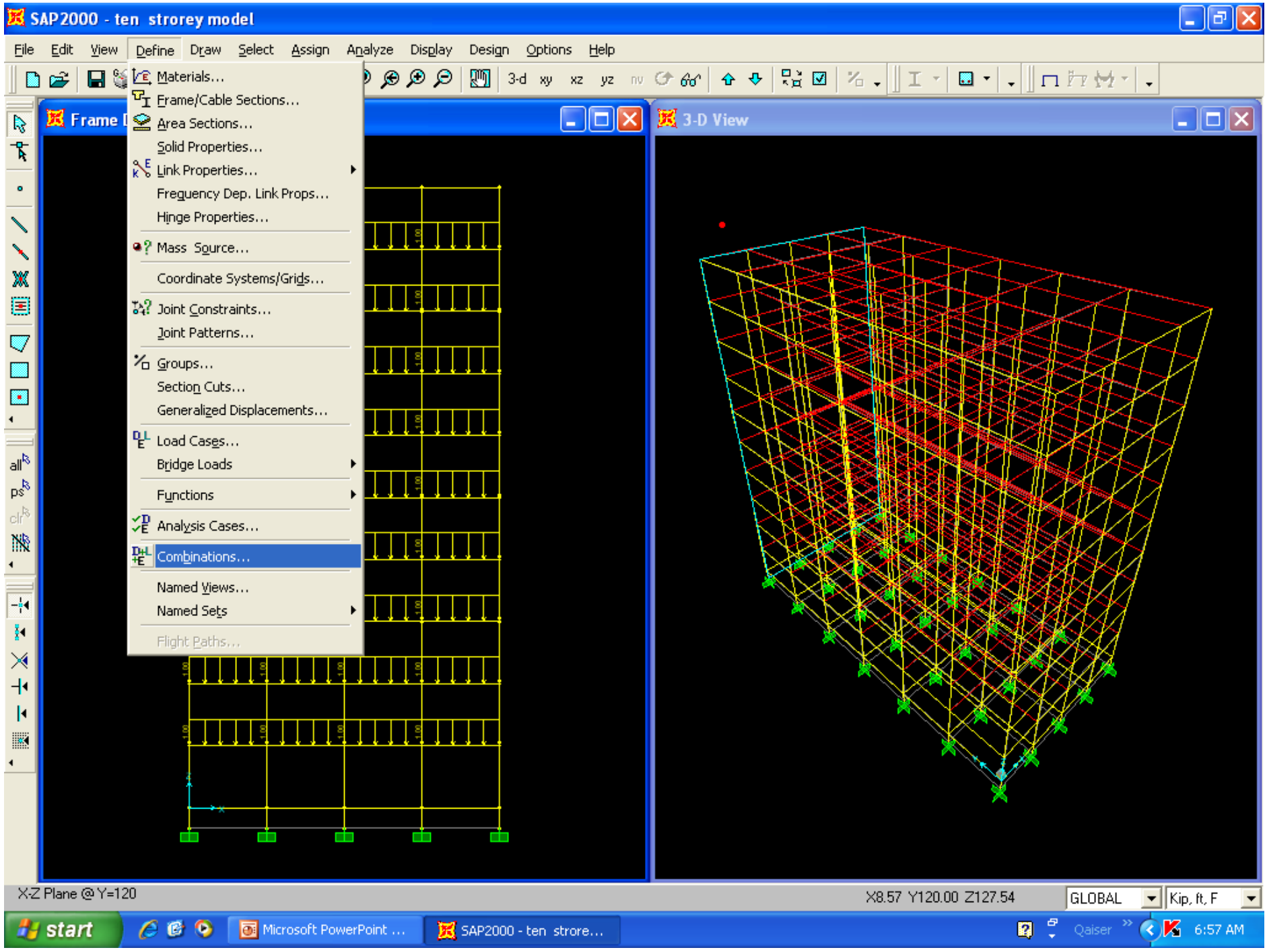

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
Frame Span Loads (wall) (Global CSys)
3-D View
all ps clr
175 Points 290 Lines 120 Areas Selected
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
6:39 AM

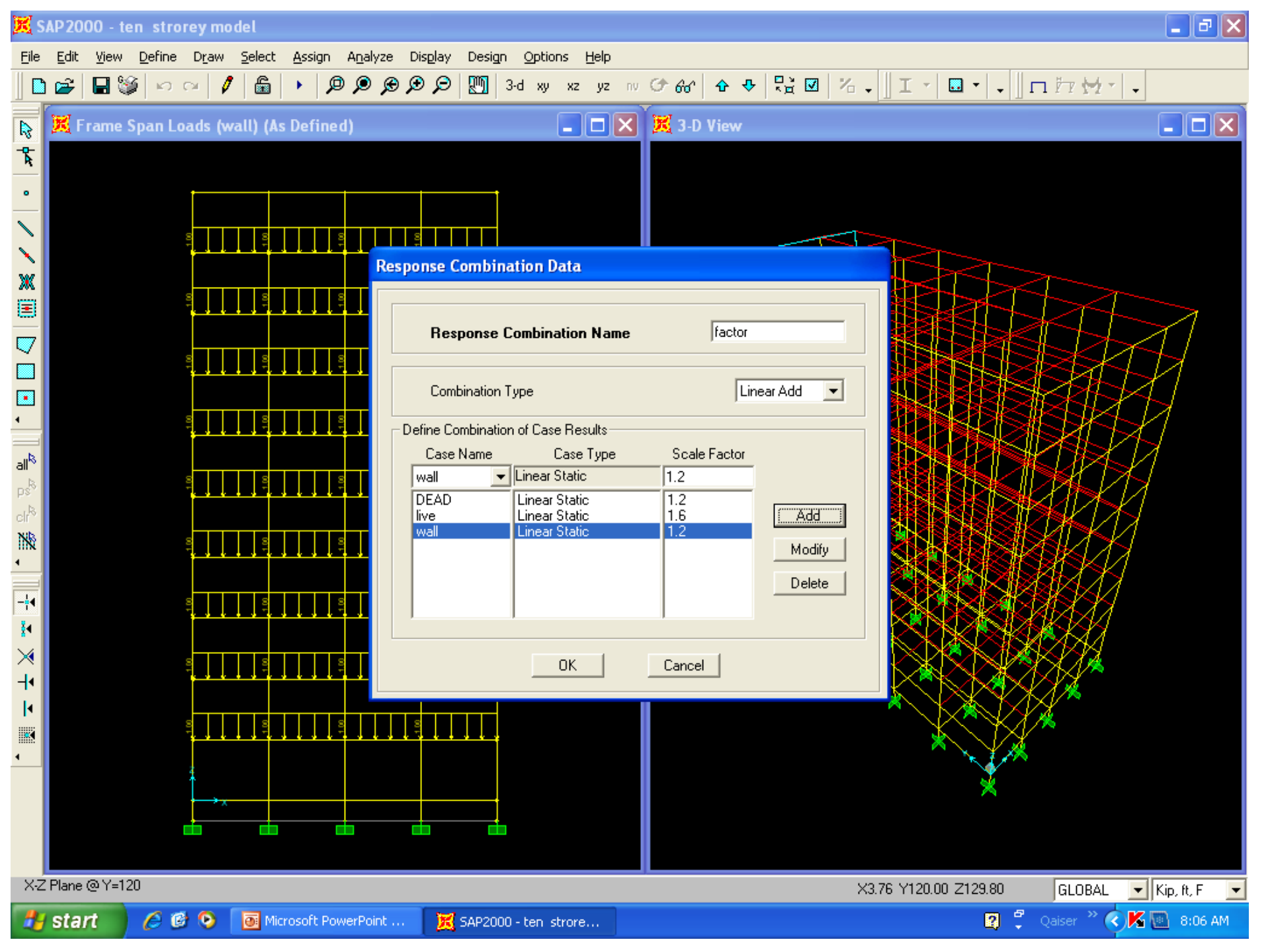

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
Frame Distributed Loads (wall)
3-D View
X-Y Plane @ Z=12
X66.64 Y65.30 Z12.00
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
6:40 AM

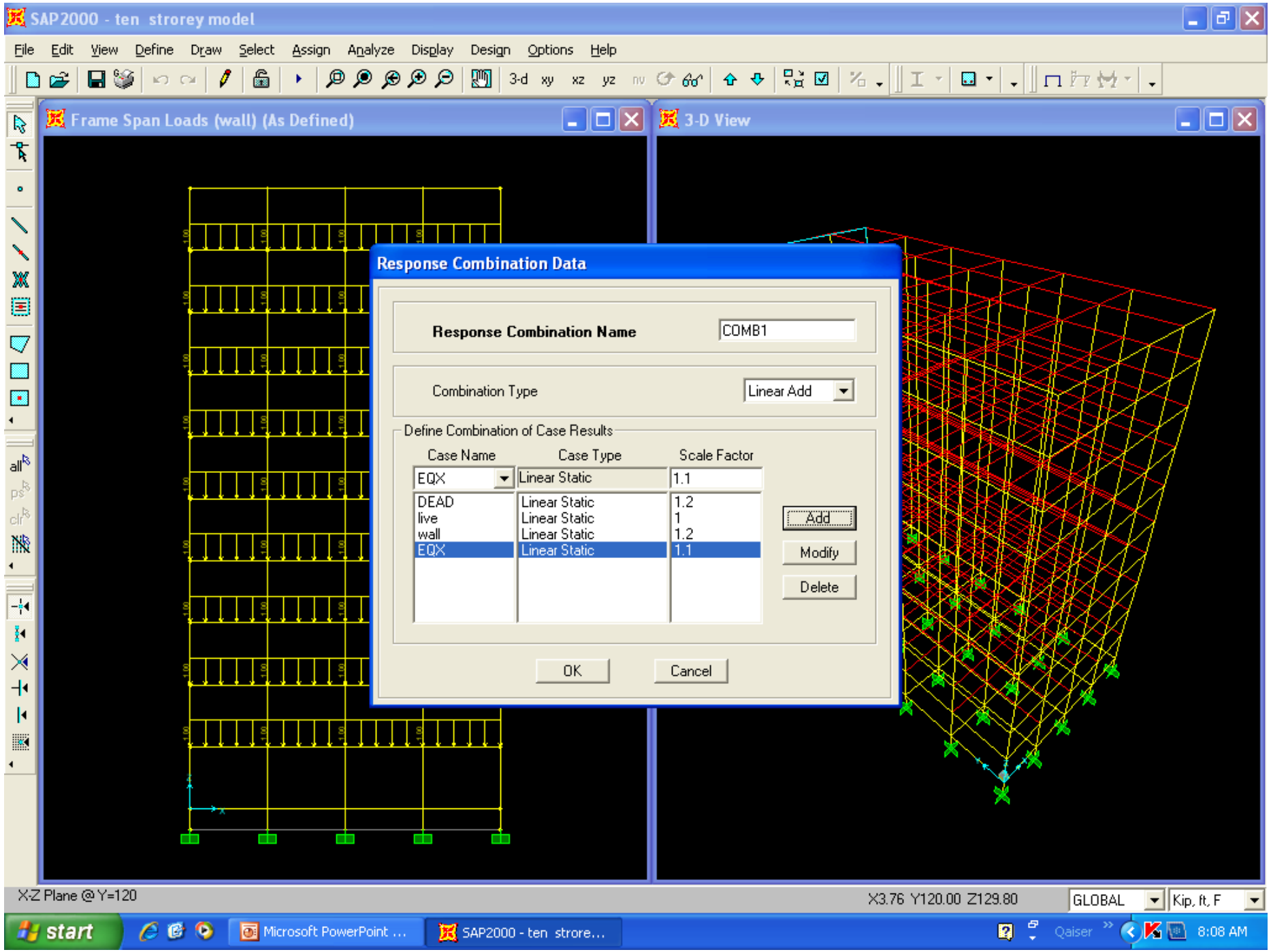

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
Frame Distributed Loads (wall)
3-D View
X-Z Plane @ Y=120
X67.15 Y120.00 Z40.85
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
6:40 AM

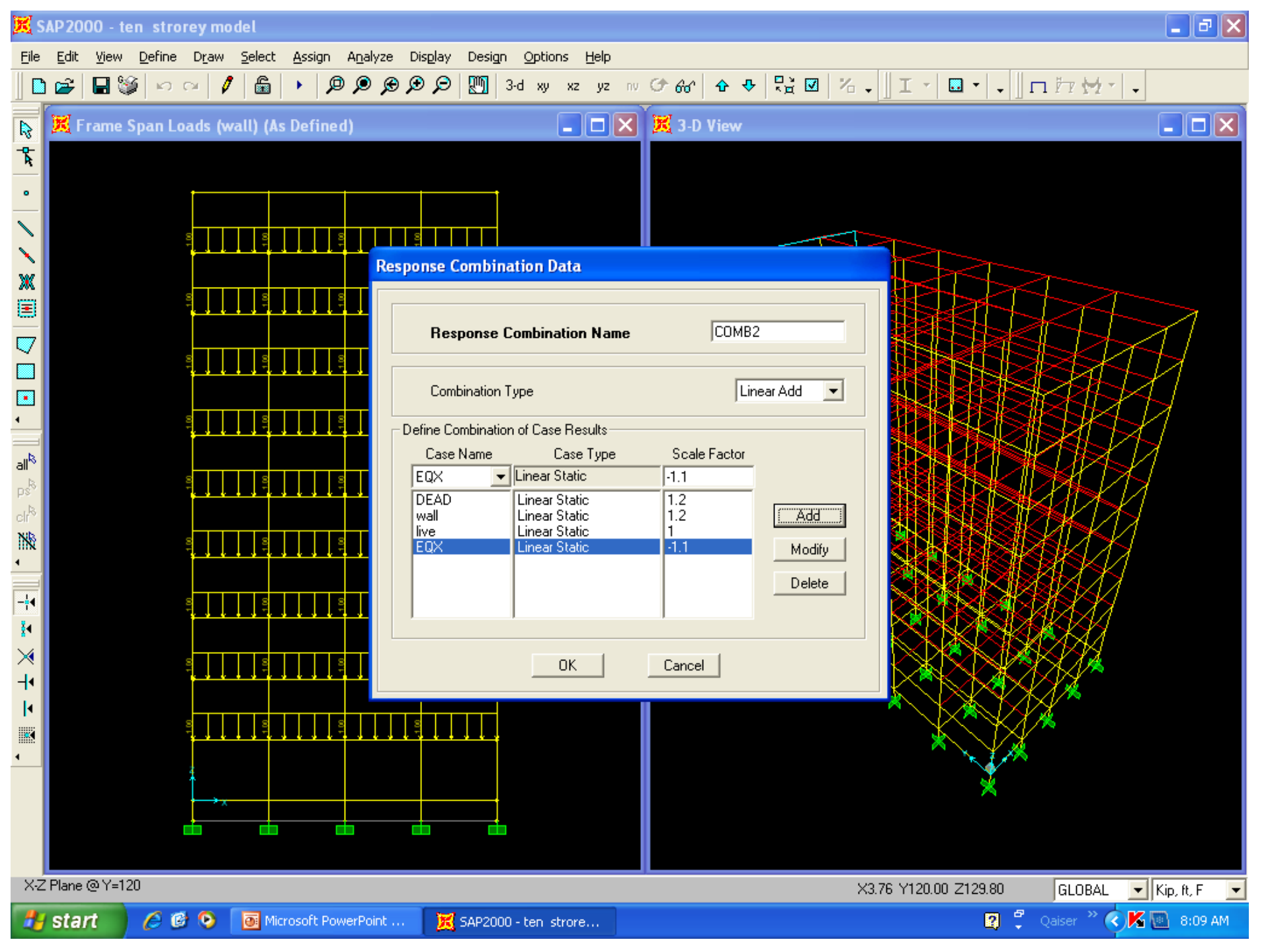

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Materials...
Frame/Cable Sections...
Area Sections...
Solid Properties...
Link Properties...
Frequency Dep. Link Props...
Hinge Properties...
Mass Source...
Coordinate Systems/Grids...
Joint Constraints...
Joint Patterns...
Groups...
Section Cuts...
Generalized Displacements...
Load Cases...
Bridge Loads
Functions
Analysis Cases...
Combinations...
Named Views...
Named Sets
Flight Paths...
Frame
3-D View
X-Z Plane @ Y=120
X21.43 Y120.00 Z127.78
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
6:55 AM

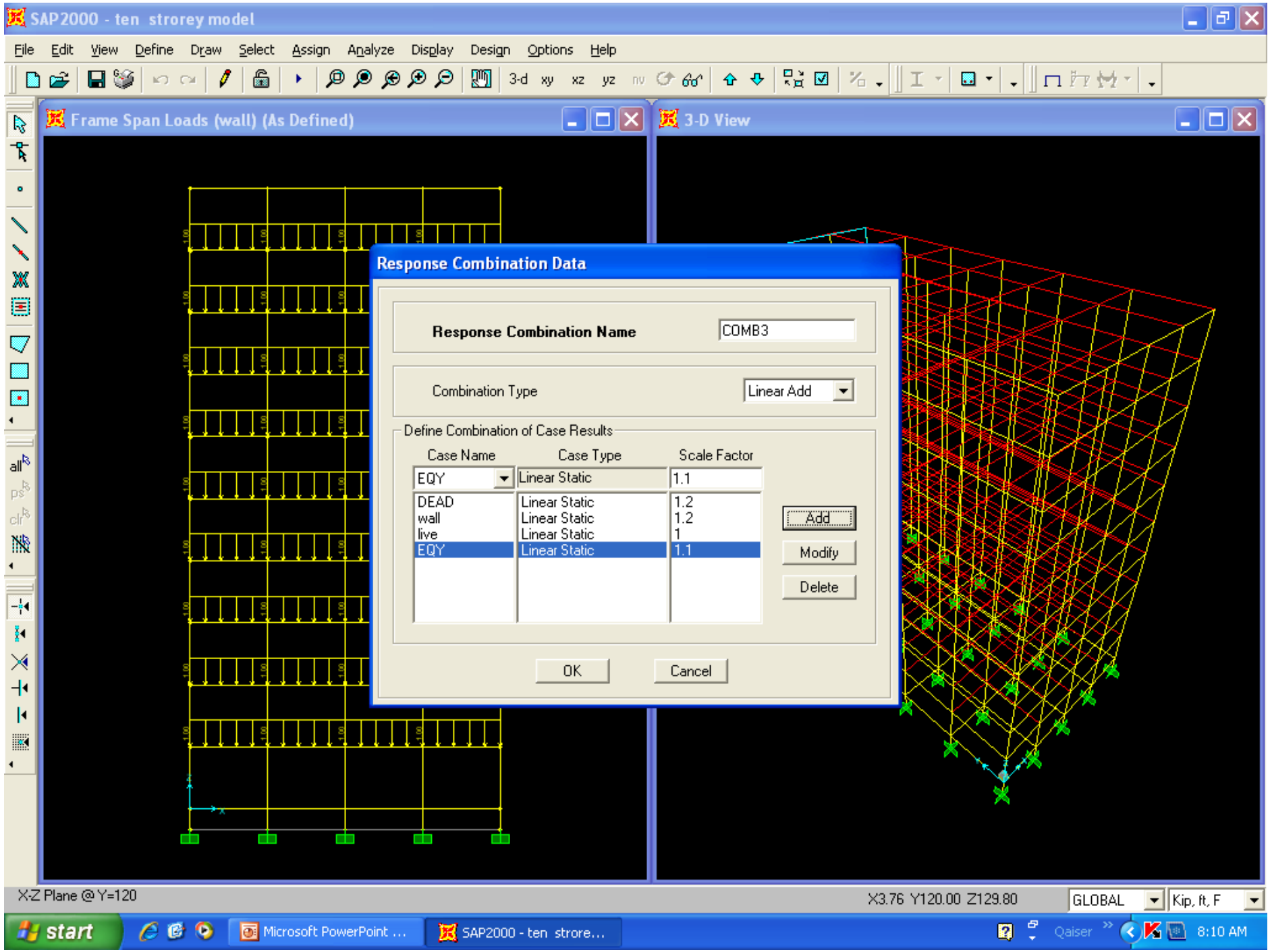

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Frame Distributed Loads (wall)
3-D View
Define Mass Source
Mass Definition
From Element and Additional Masses
From Loads
From Element and Additional Masses and Loads
Define Mass Multiplier for Loads
Load
Multiplier
live
1
DEAD
1
wall
1
Add
Modify
Delete
OK
Cancel
X-Z Plane @ Y=120
X-6.67 Y120.00 Z129.68
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
6:56 AM

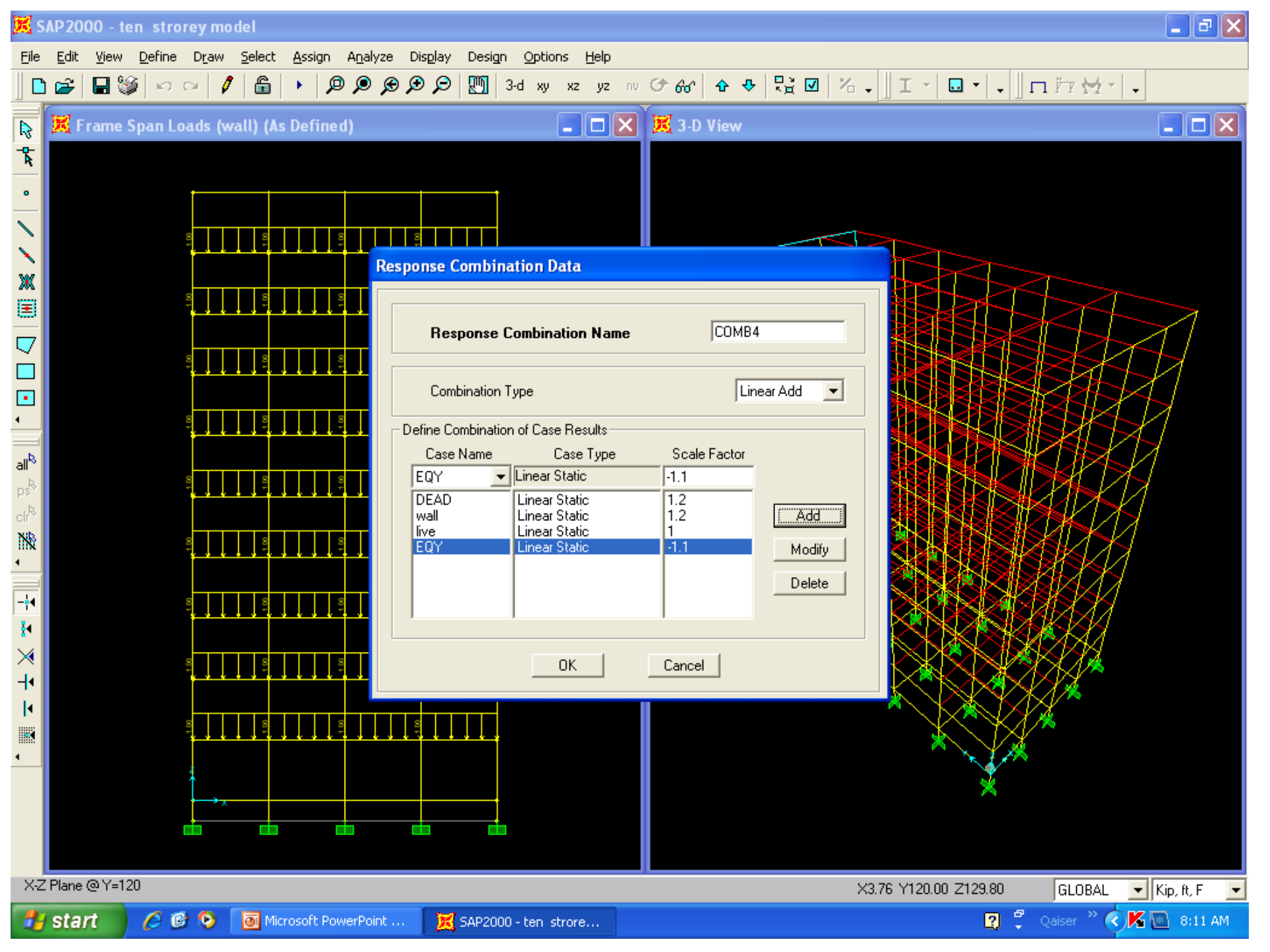

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Materials...
Frame/Cable Sections...
Area Sections...
Solid Properties...
Link Properties...
Frequency Dep. Link Props...
Hinge Properties...
Mass Source...
Coordinate Systems/Grids...
Joint Constraints...
Joint Patterns...
Groups...
Section Cuts...
Generalized Displacements...
Load Cases...
Bridge Loads
Functions
Analysis Cases...
Combinations...
Named Views...
Named Sets
Flight Paths...
3-D View
X-Z Plane @ Y=120
X8.57 Y120.00 Z127.54
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
6:57 AM

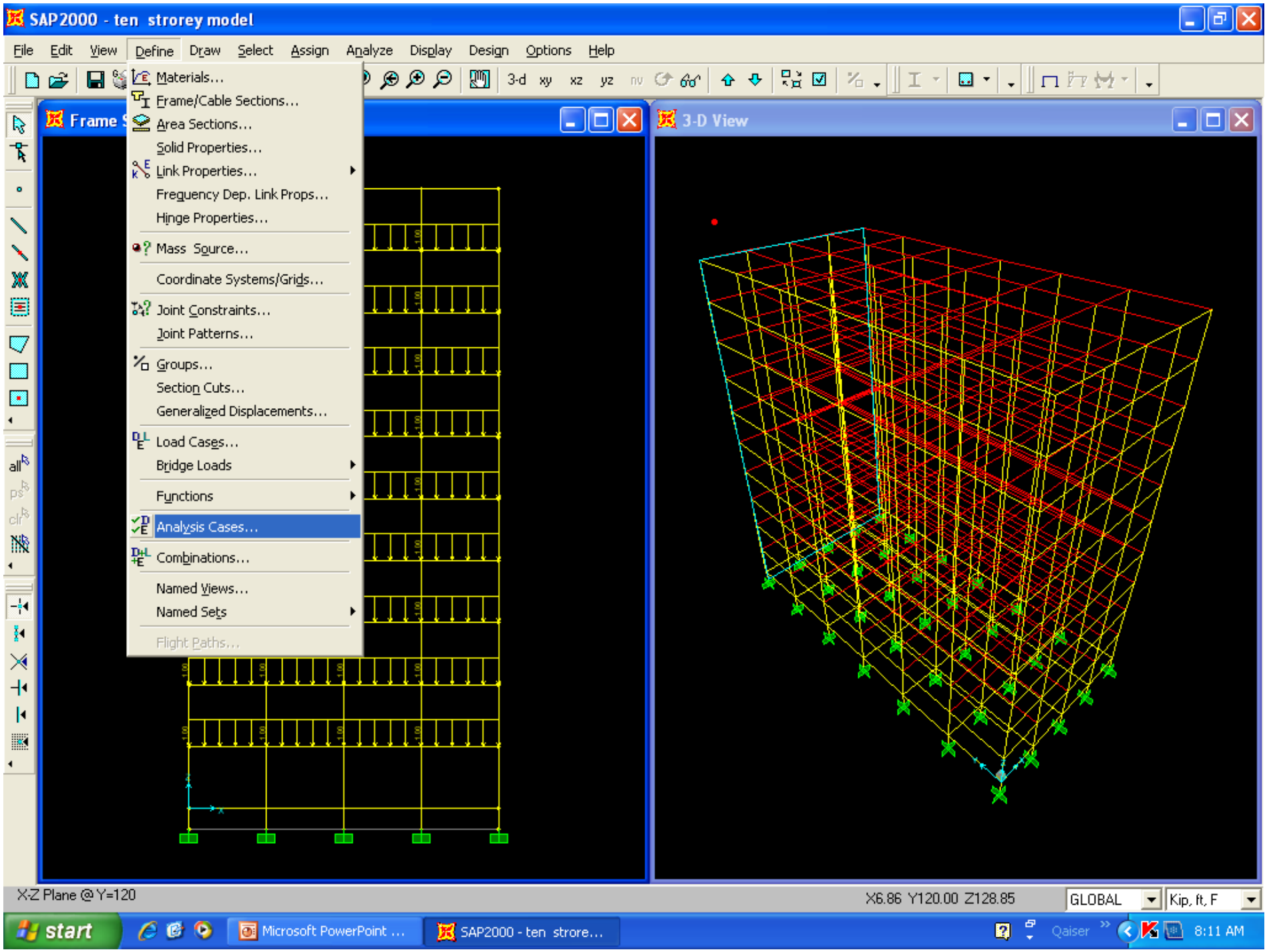

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Frame Span Loads (wall) (As Defined)
3-D View
Response Combination Data
Response Combination Name
factor
Combination Type
Linear Add
Define Combination of Case Results
Case Name
Case Type
Scale Factor
wall
Linear Static
1.2
DEAD
Linear Static
1.2
live
Linear Static
1.6
wall
Linear Static
1.2
Add
Modify
Delete
OK
Cancel
X-Z Plane @ Y=120
X3.76 Y120.00 Z129.80
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
8:06 AM

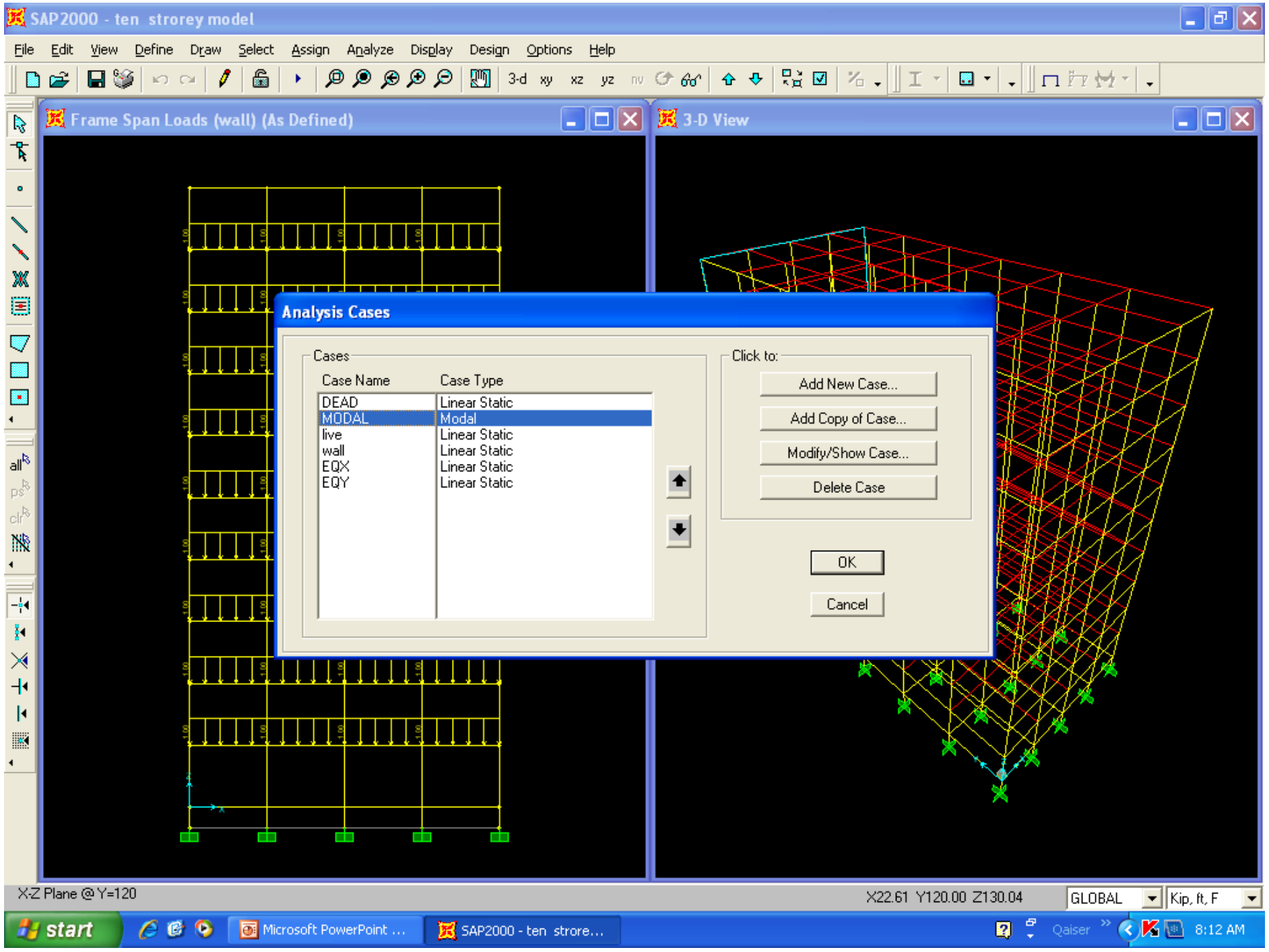

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Frame Span Loads (wall) (As Defined)
3-D View
Response Combination Data
Response Combination Name
COMB1
Combination Type
Linear Add
Define Combination of Case Results
Case Name
Case Type
Scale Factor
EQX
Linear Static
1.1
DEAD
Linear Static
1.2
live
Linear Static
1
wall
Linear Static
1.2
EQX
Linear Static
1.1
Add
Modify
Delete
OK
Cancel
X-Z Plane @ Y=120
X3.76 Y120.00 Z129.80
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:08 AM

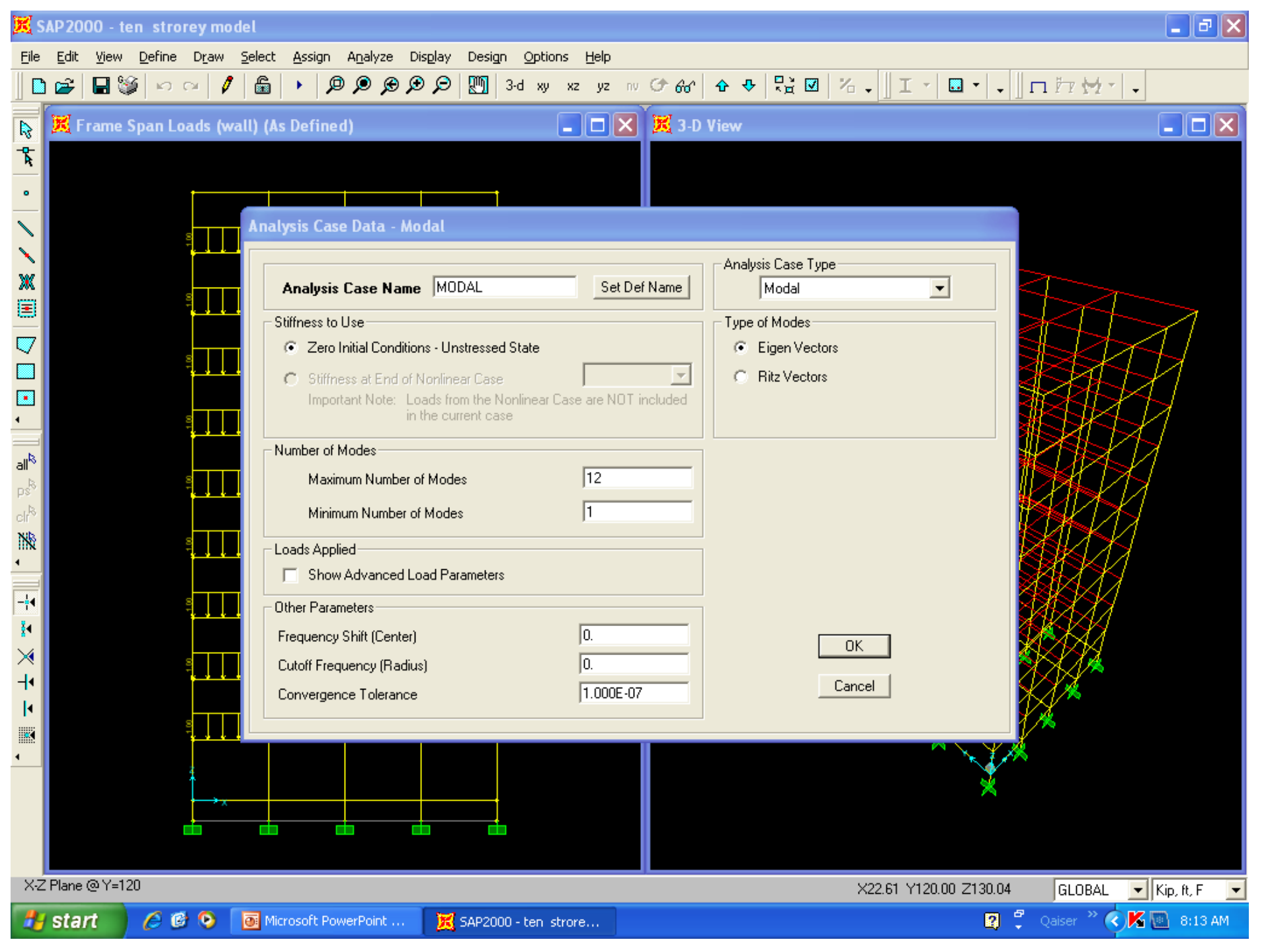

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Frame Span Loads (wall) (As Defined)
3-D View
Response Combination Data
Response Combination Name
COMB2
Combination Type
Linear Add
Define Combination of Case Results
Case Name
Case Type
Scale Factor
EQX
Linear Static
-1.1
DEAD
Linear Static
1.2
wall
Linear Static
1.2
live
Linear Static
1
EQX
Linear Static
-1.1
Add
Modify
Delete
OK
Cancel
X-Z Plane @ Y=120
X3.76 Y120.00 Z129.80
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
8:09 AM

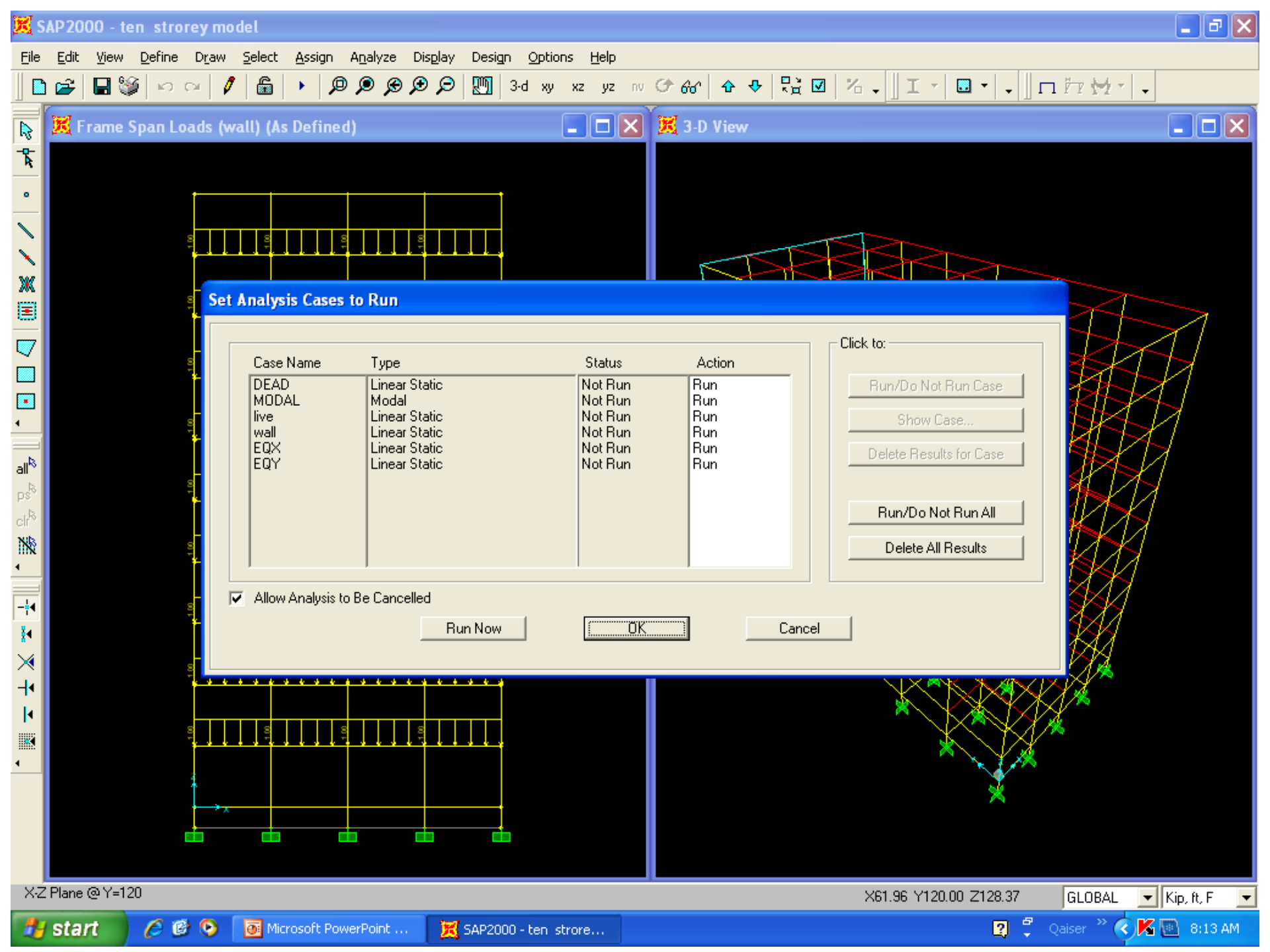

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Frame Span Loads (wall) (As Defined)
3-D View
Response Combination Data
Response Combination Name
COMB3
Combination Type
Linear Add
Define Combination of Case Results
Case Name
Case Type
Scale Factor
EQY
Linear Static
1.1
DEAD Linear Static 1.2
wall Linear Static 1.2
live Linear Static 1
EQY Linear Static 1.1
Add
Modify
Delete
OK
Cancel
X-Z Plane @ Y=120
X3.76 Y120.00 Z129.80
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:10 AM

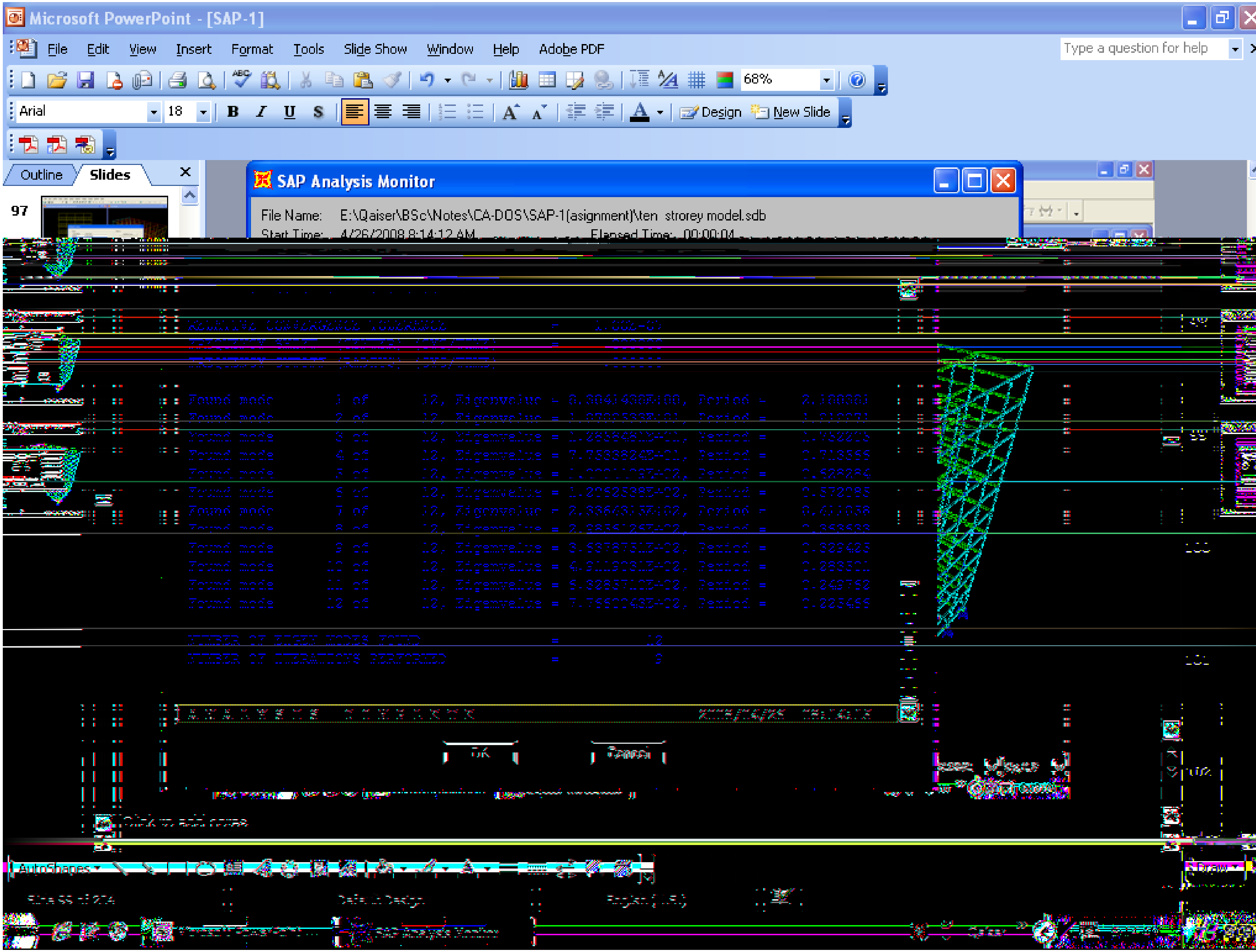

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Frame Span Loads (wall) (As Defined)
3-D View
Response Combination Data
Response Combination Name
COMB4
Combination Type
Linear Add
Define Combination of Case Results
Case Name
Case Type
Scale Factor
EQY
Linear Static
-1.1
DEAD
Linear Static
1.2
wall
Linear Static
1.2
live
Linear Static
1
EQY
Linear Static
-1.1
Add
Modify
Delete
OK
Cancel
X-Z Plane @ Y=120
X3.76 Y120.00 Z129.80
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
8:11 AM

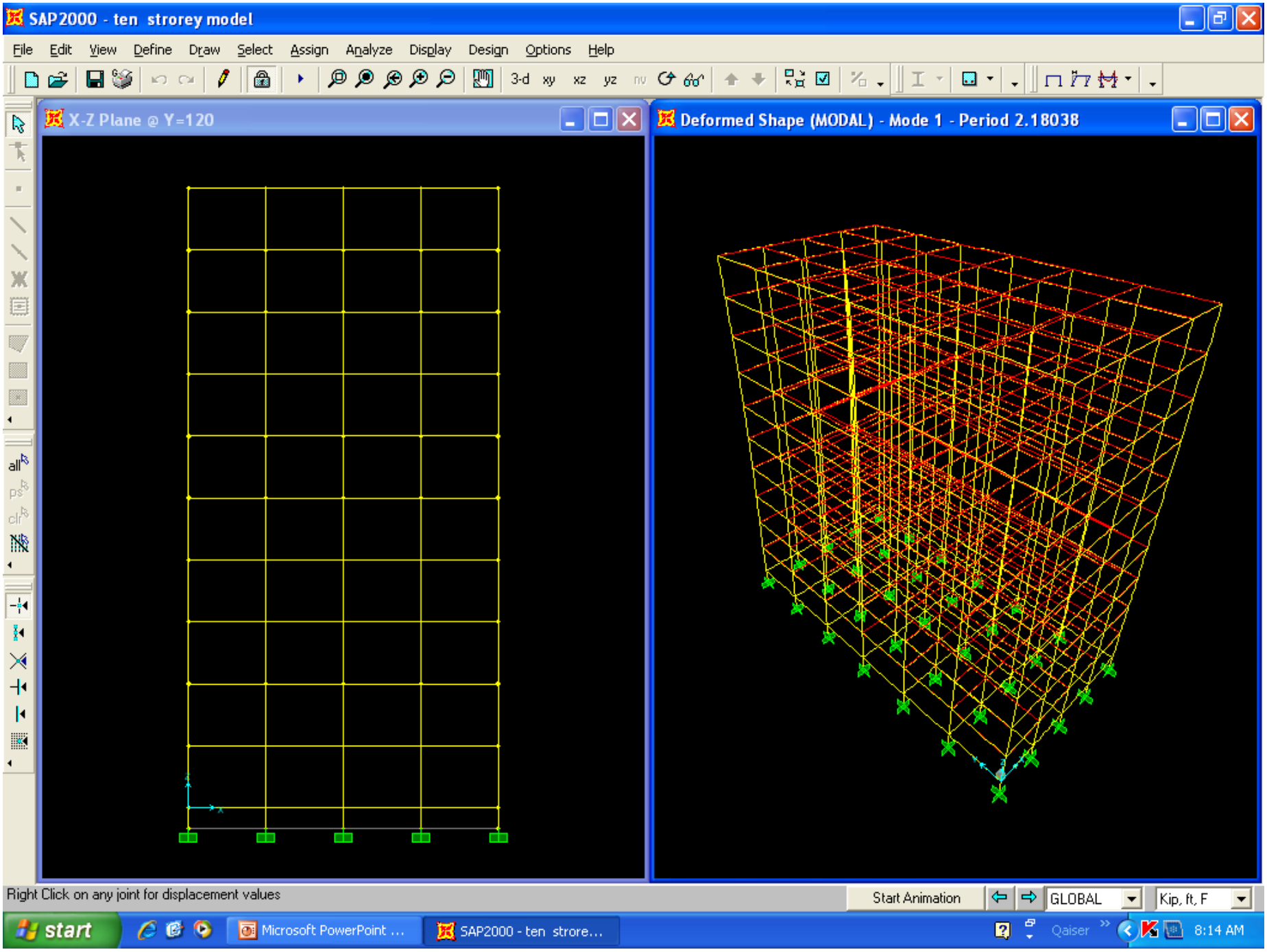

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Materials...
Frame/Cable Sections...
Area Sections...
Solid Properties...
Link Properties...
Frequency Dep. Link Props...
Hinge Properties...
Mass Source...
Coordinate Systems/Grids...
Joint Constraints...
Joint Patterns...
Groups...
Section Cuts...
Generalized Displacements...
Load Cases...
Bridge Loads
Functions
Analysis Cases...
Combinations...
Named Views...
Named Sets
Flight Paths...
3-D View
X-Z Plane @ Y=120
X6.86 Y120.00 Z128.85
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
8:11 AM

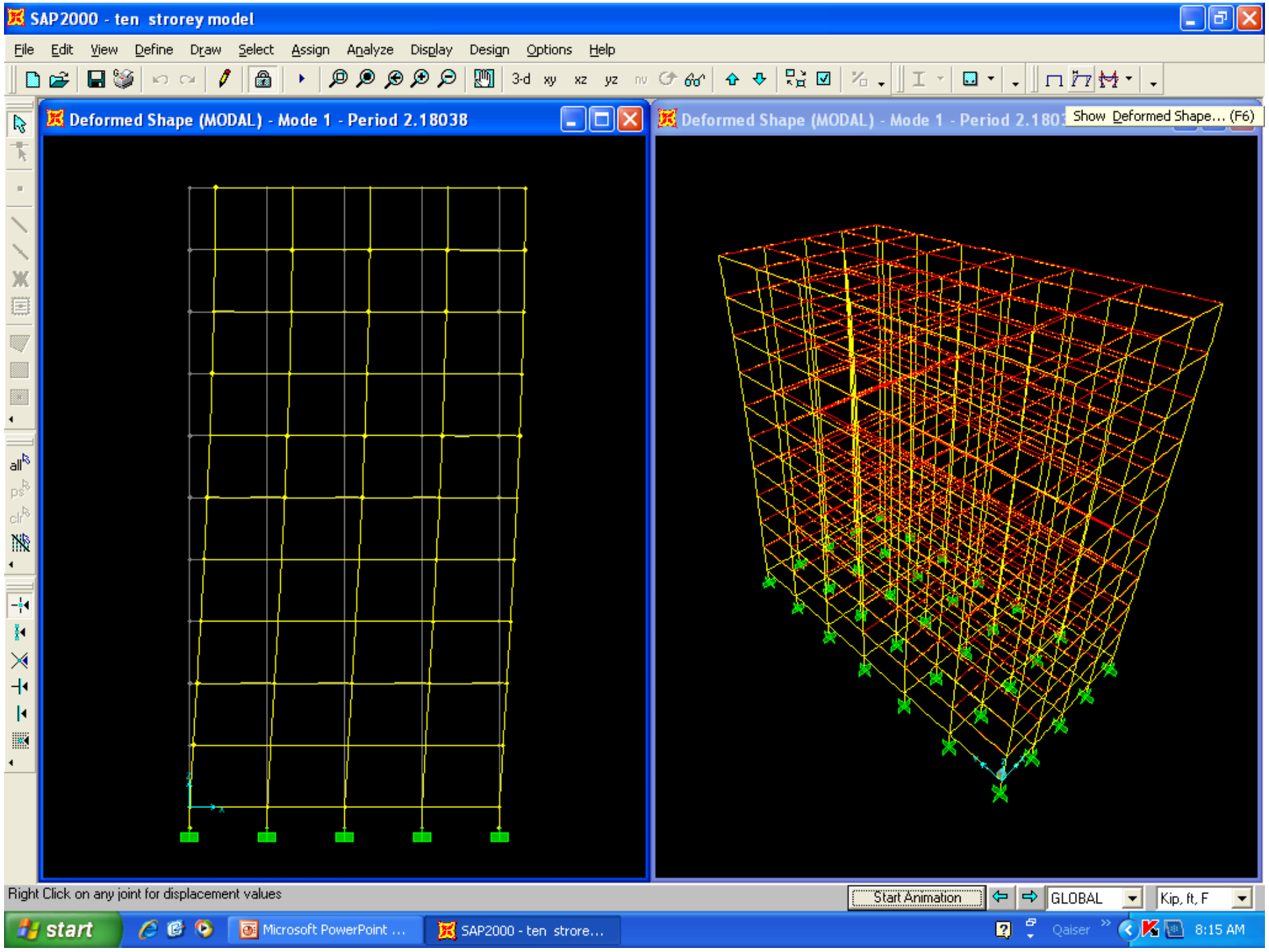

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Frame Span Loads (wall) (As Defined)
3-D View
Analysis Cases
Cases
Case Name
Case Type
DEAD
Linear Static
MODAL
Modal
live
Linear Static
wall
Linear Static
EQX
Linear Static
EQY
Linear Static
Click to:
Add New Case...
Add Copy of Case...
Modify/Show Case...
Delete Case
OK
Cancel
X-Z Plane @ Y=120
X22.61 Y120.00 Z130.04
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
8:12 AM

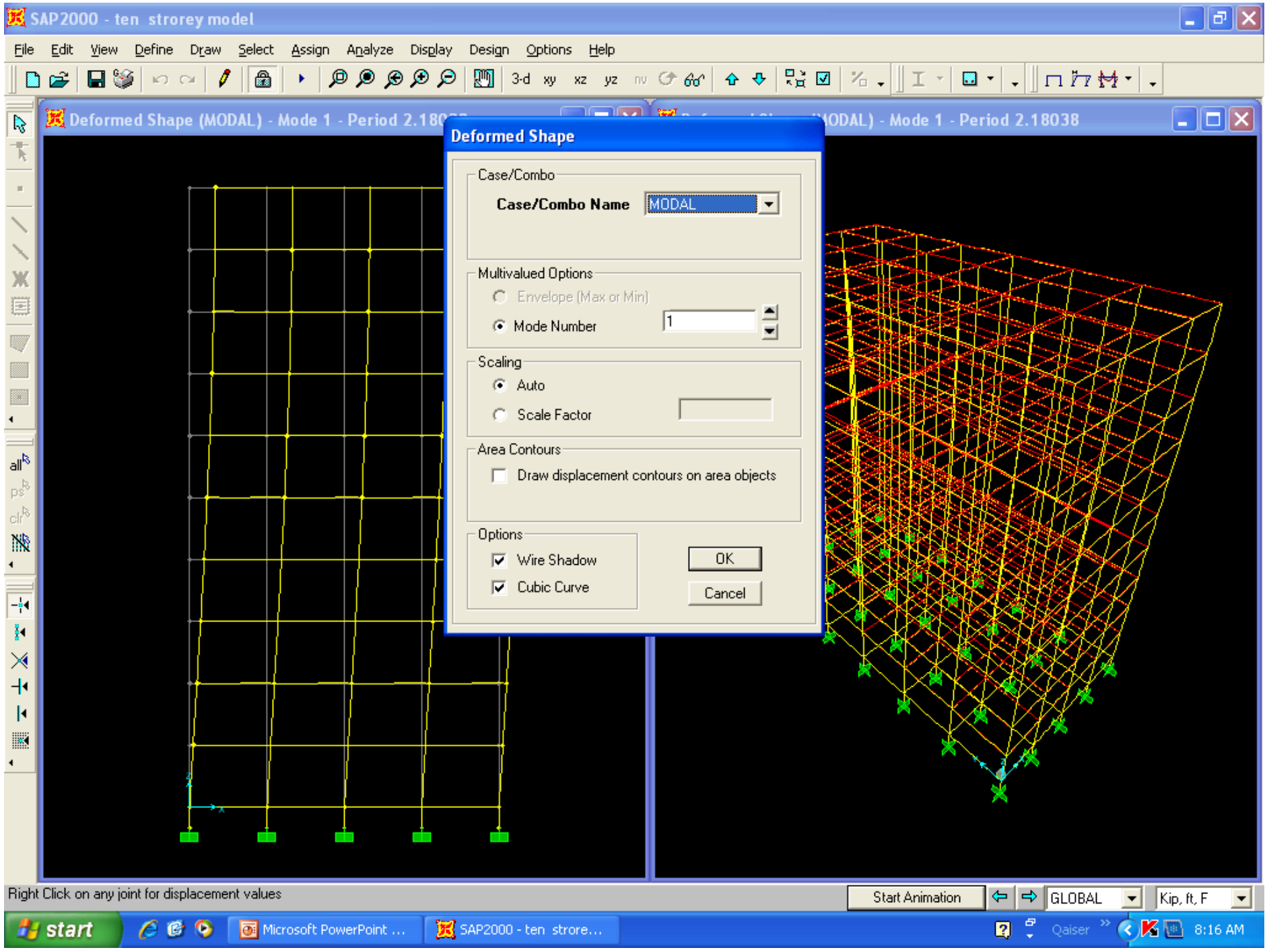

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Frame Span Loads (wall) (As Defined)
3-D View
Analysis Case Data - Modal
Analysis Case Name
MODAL
Set Def Name
Analysis Case Type
Modal
Stiffness to Use
Zero Initial Conditions - Unstressed State
Stiffness at End of Nonlinear Case
Important Note: Loads from the Nonlinear Case are NOT included in the current case
Type of Modes
Eigen Vectors
Ritz Vectors
Number of Modes
Maximum Number of Modes
12
Minimum Number of Modes
1
Loads Applied
Show Advanced Load Parameters
Other Parameters
Frequency Shift (Center)
0.
Cutoff Frequency (Radius)
0.
Convergence Tolerance
1.000E-07
OK
Cancel
X-Z Plane @ Y=120
X22.61 Y120.00 Z130.04
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
8:13 AM

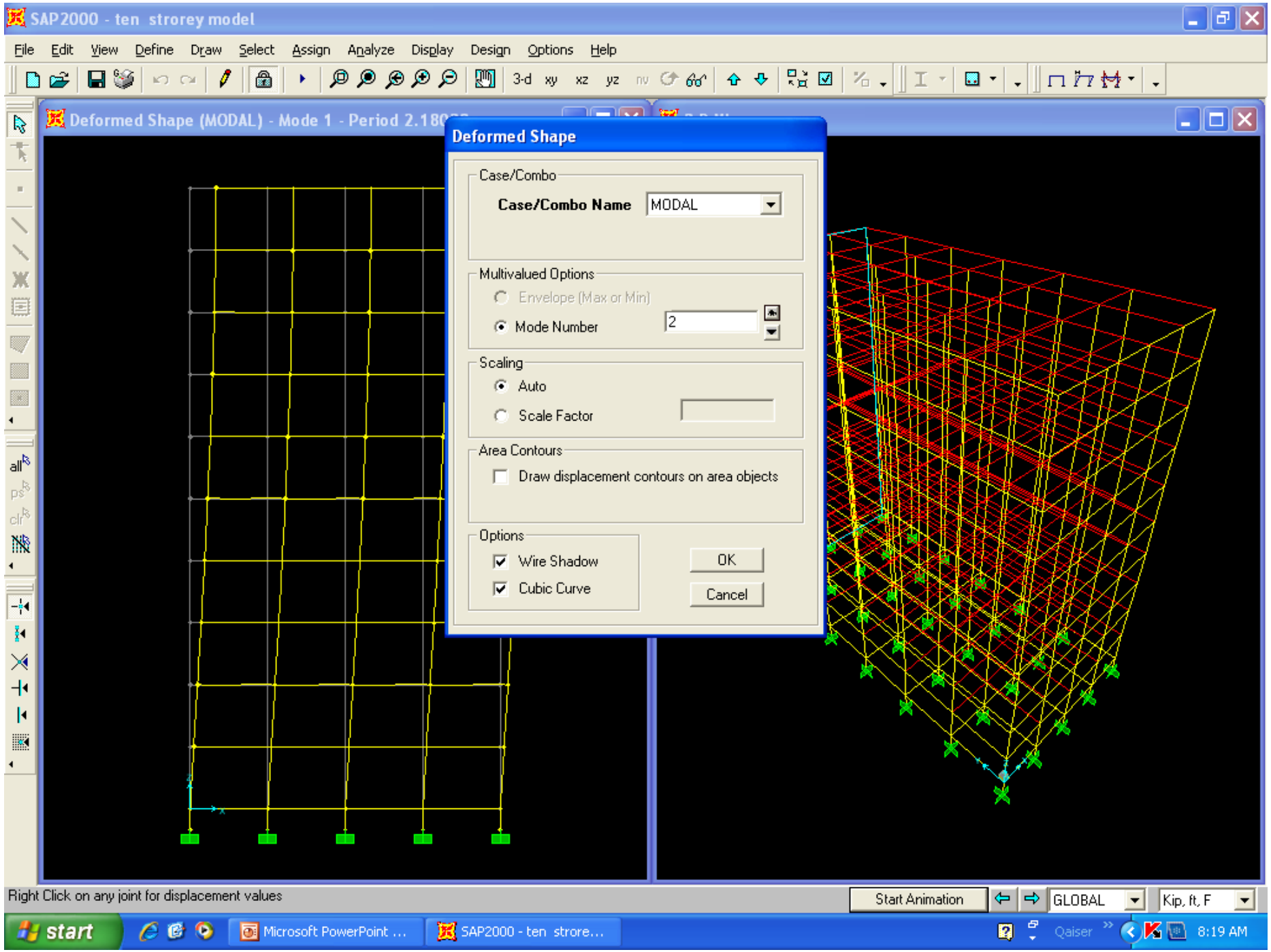

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Frame Span Loads (wall) (As Defined)
3-D View
Set Analysis Cases to Run
Case Name Type Status Action
DEAD Linear Static Not Run Run
MODAL Modal Not Run Run
live Linear Static Not Run Run
wall Linear Static Not Run Run
EQX Linear Static Not Run Run
EQY Linear Static Not Run Run
Click to:
Run/Do Not Run Case
Show Case...
Delete Results for Case
Run/Do Not Run All
Delete All Results
Allow Analysis to Be Cancelled
Run Now
OK
Cancel
X-Z Plane @ Y=120
X61.96 Y120.00 Z128.37
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
8:13 AM

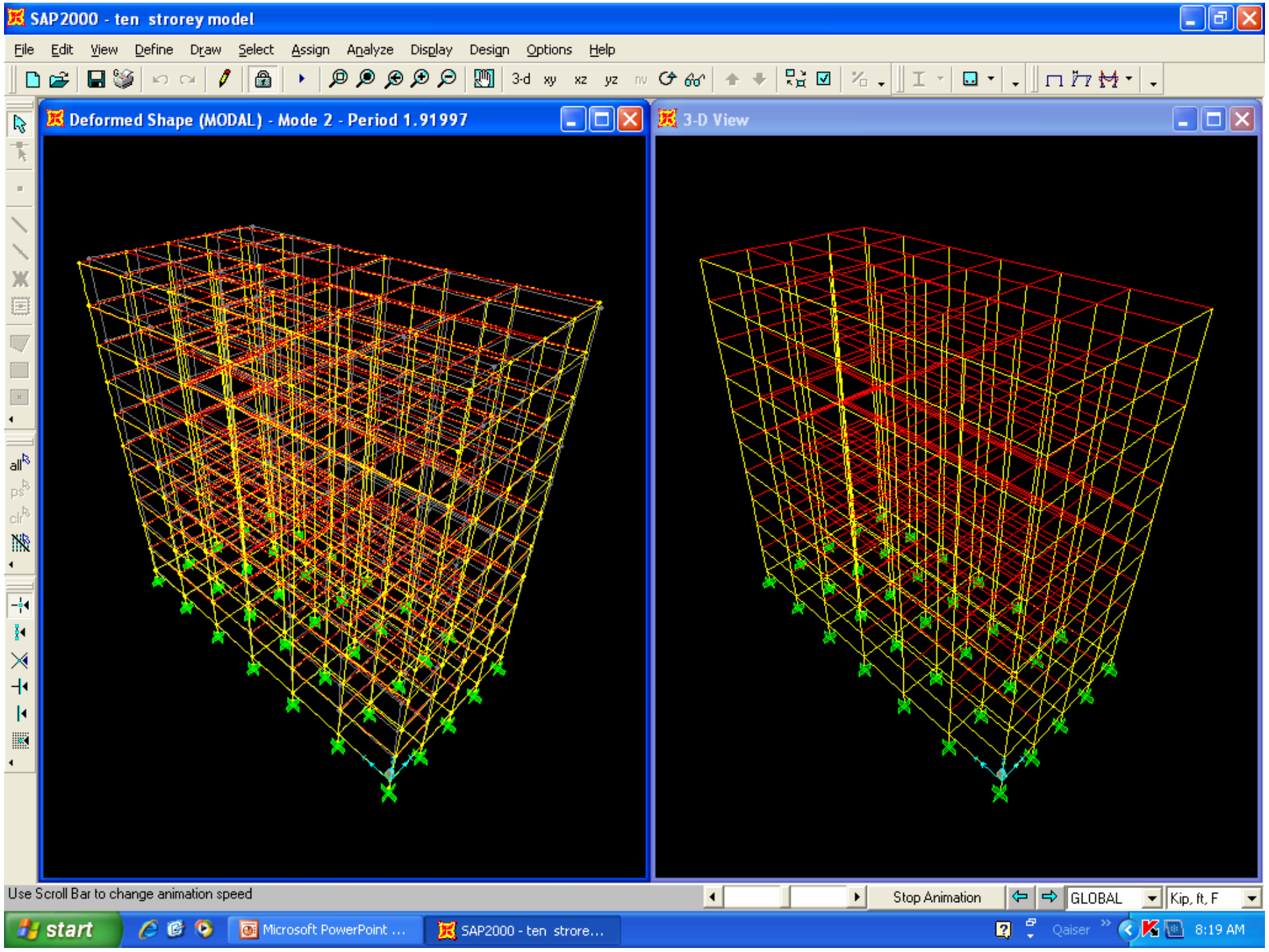

Microsoft PowerPoint - [SAP-1]
File
Edit
View
Insert
Format
Tools
Slide Show
Window
Help
Adobe PDF
Type a question for help
68%
Arial
18
Design
New Slide
Outline
Slides
97
SAP Analysis Monitor
File Name: E:\Qaiser\BSc\Notes\CA-DOS\SAP-1(asignment)\ten storey model.sdb
AutoShapes

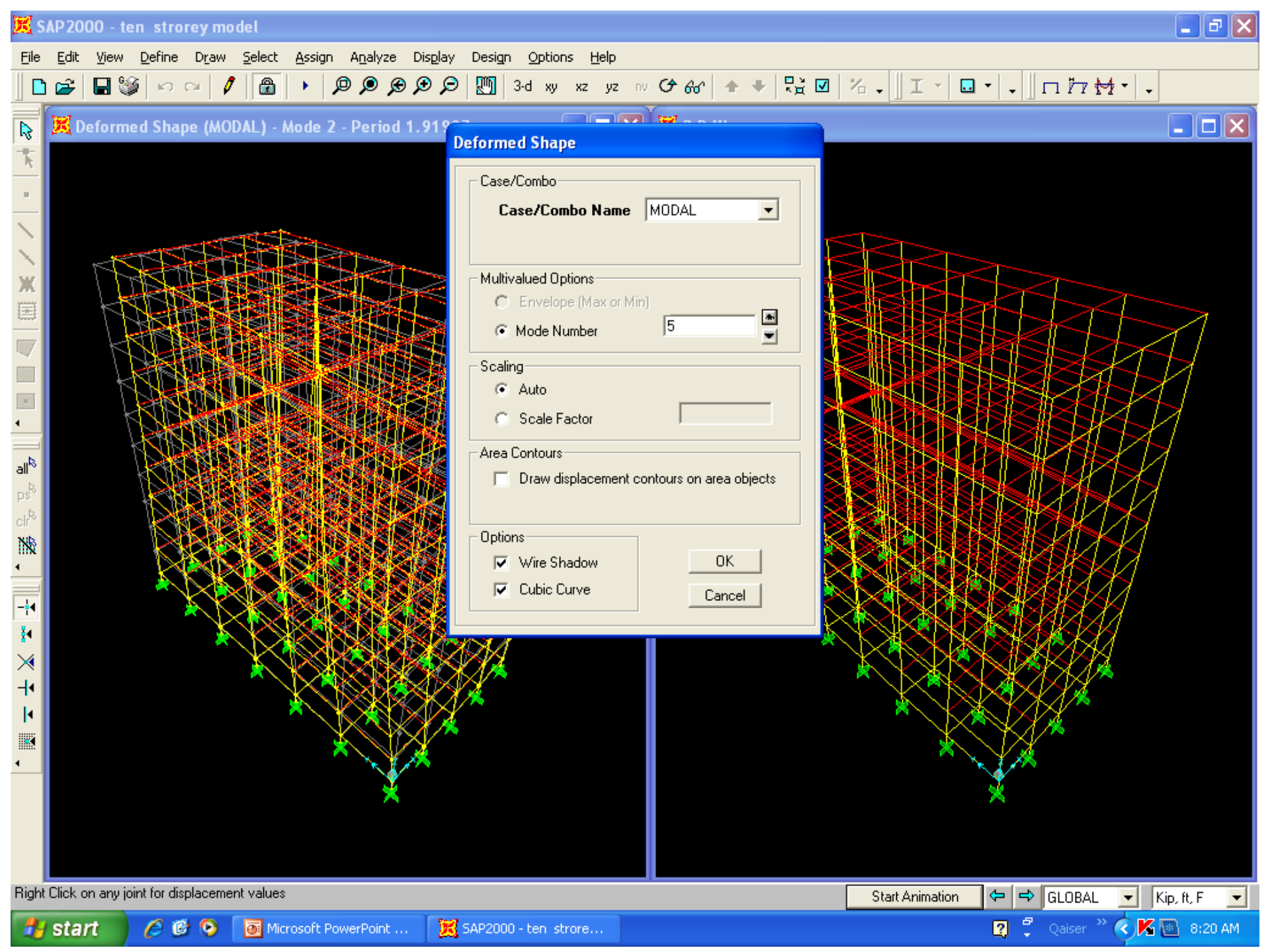

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
X-Z Plane @ Y=120
Deformed Shape (MODAL) - Mode 1 - Period 2.18038
Right Click on any joint for displacement values
Start Animation
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:14 AM

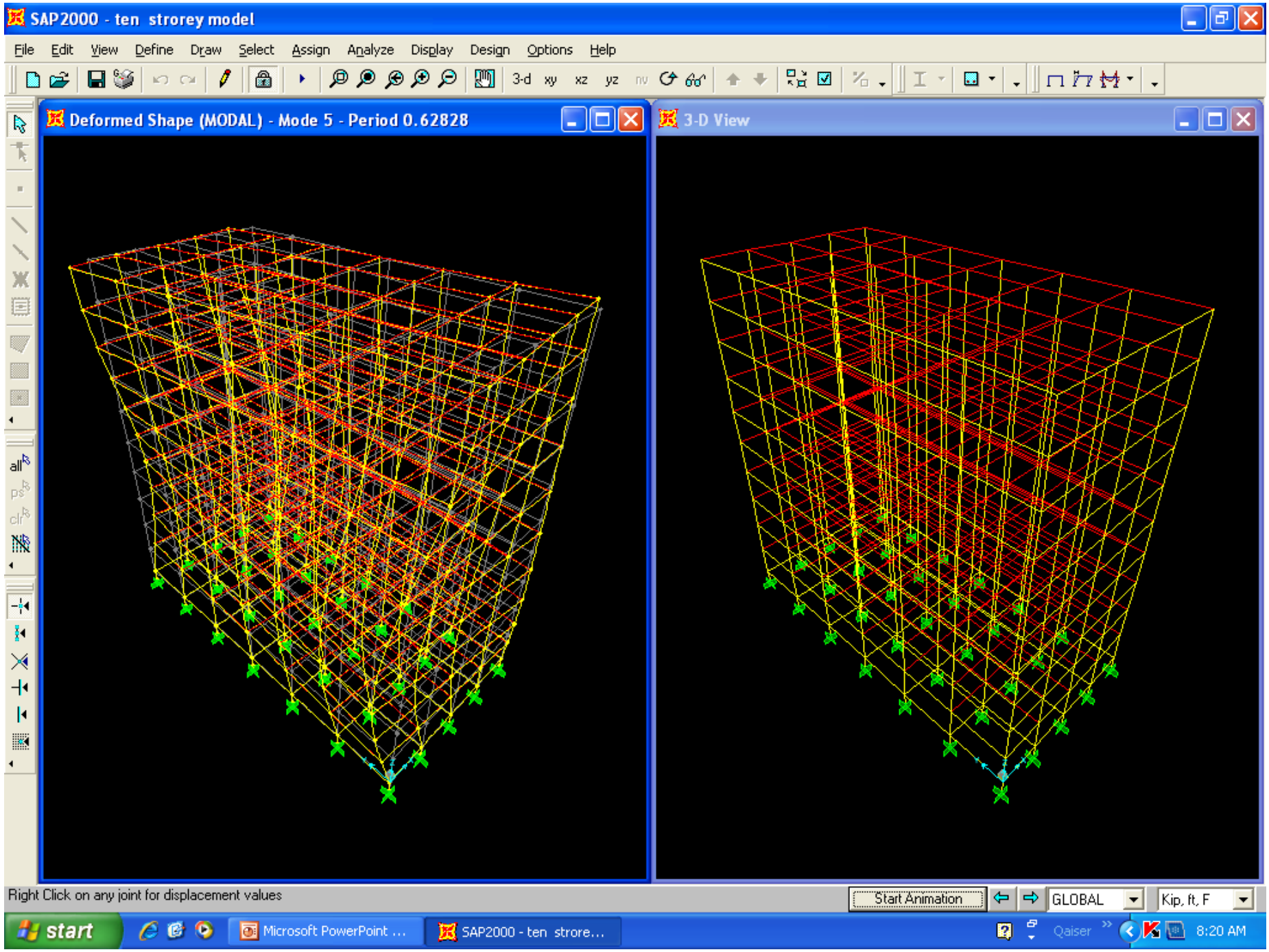

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz
Deformed Shape (MODAL) - Mode 1 - Period 2.18038
Deformed Shape (MODAL) - Mode 1 - Period 2.180
Show Deformed Shape... (F6)
Right Click on any joint for displacement values
Start Animation
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:15 AM

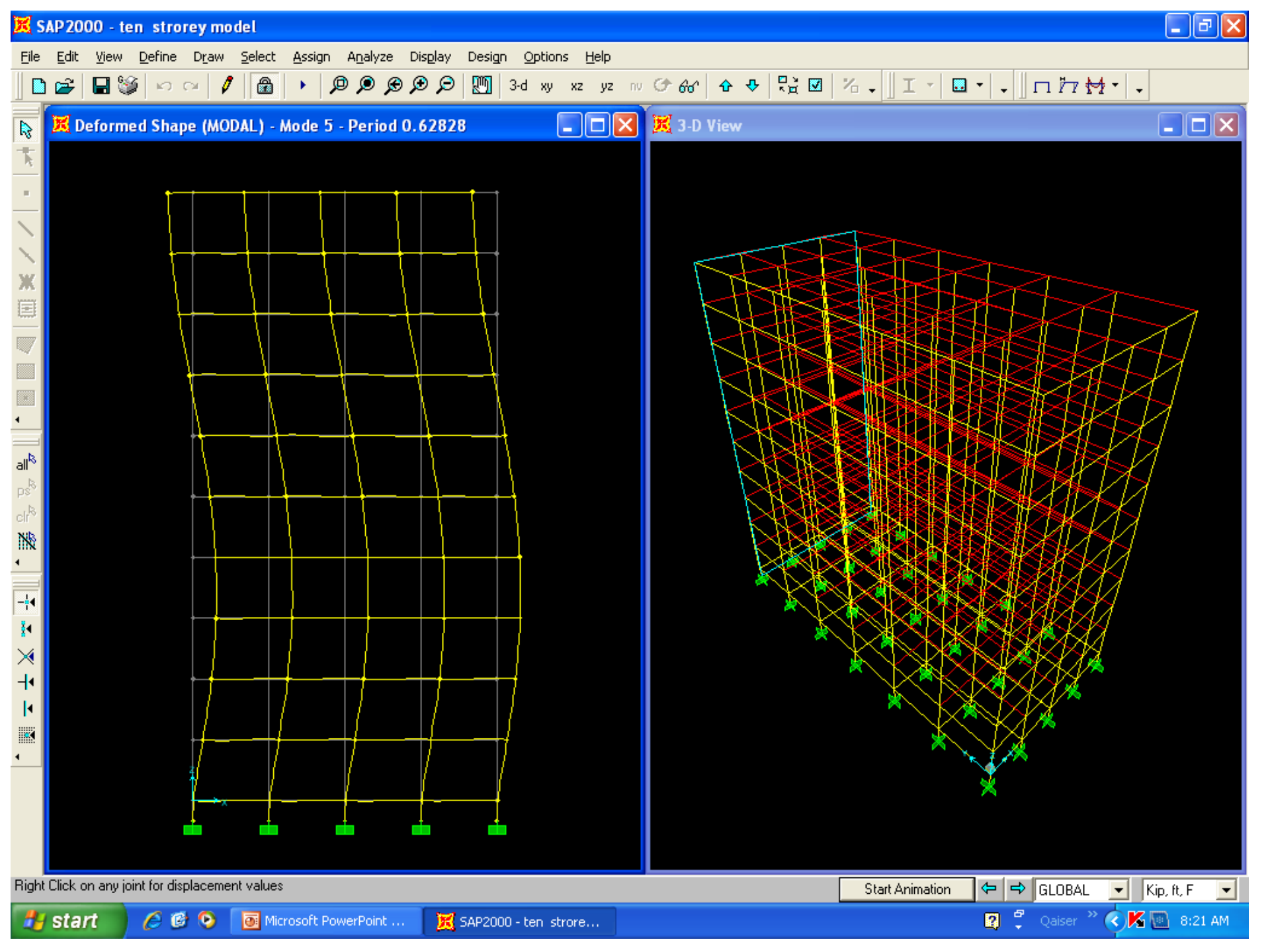

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Deformed Shape (MODAL) - Mode 1 - Period 2.18038
Deformed Shape
Case/Combo
Case/Combo Name
MODAL
Multivalued Options
Envelope (Max or Min)
Mode Number
1
Scaling
Auto
Scale Factor
Area Contours
Draw displacement contours on area objects
Options
Wire Shadow
Cubic Curve
OK
Cancel
Right Click on any joint for displacement values
Start Animation
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:16 AM

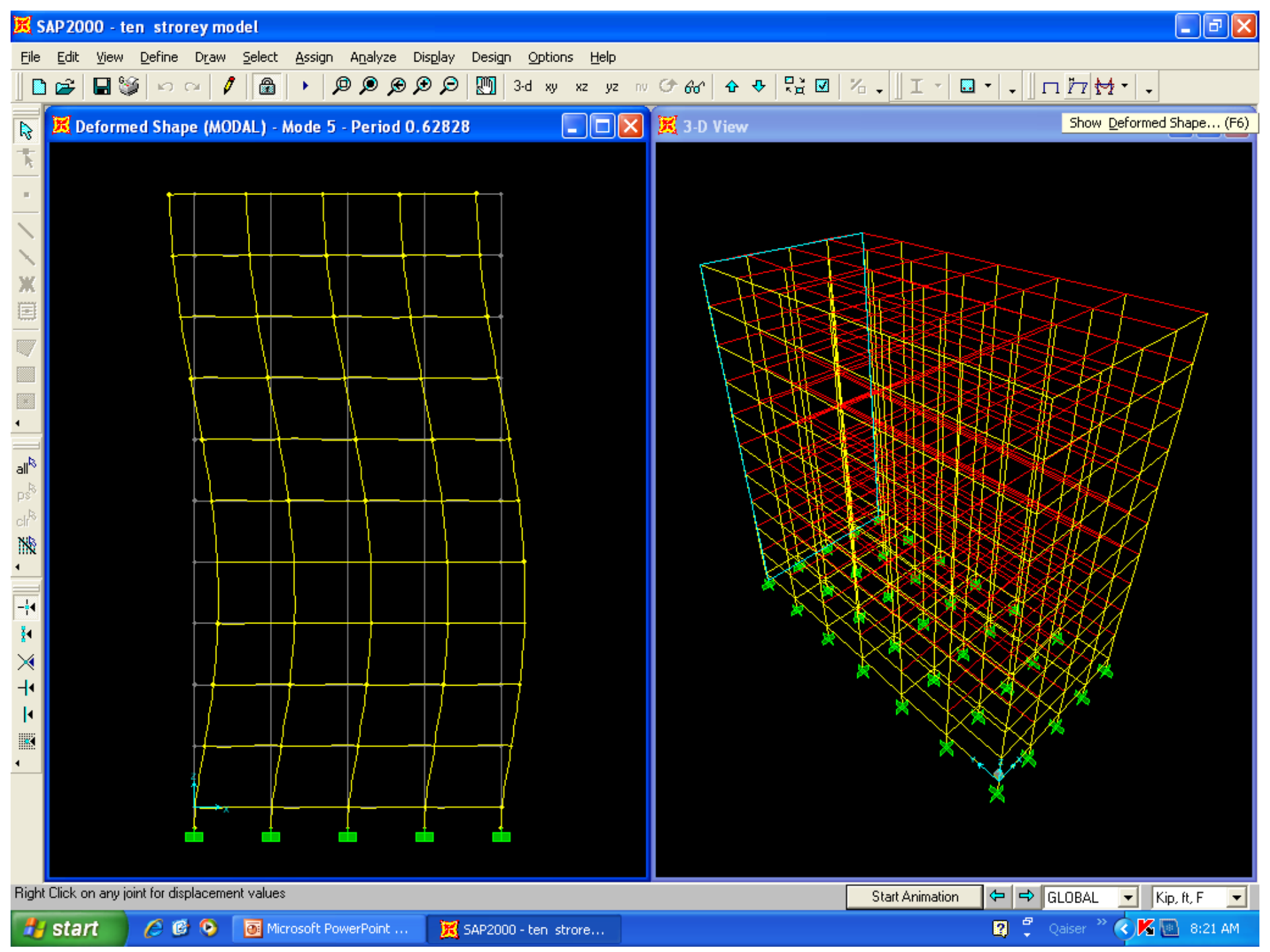

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz
Deformed Shape (MODAL) - Mode 1 - Period 2.18
Deformed Shape
Case/Combo
Case/Combo Name
MODAL
Multivalued Options
Envelope (Max or Min)
Mode Number
2
Scaling
Auto
Scale Factor
Area Contours
Draw displacement contours on area objects
Options
Wire Shadow
Cubic Curve
OK
Cancel
Right Click on any joint for displacement values
Start Animation
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:19 AM

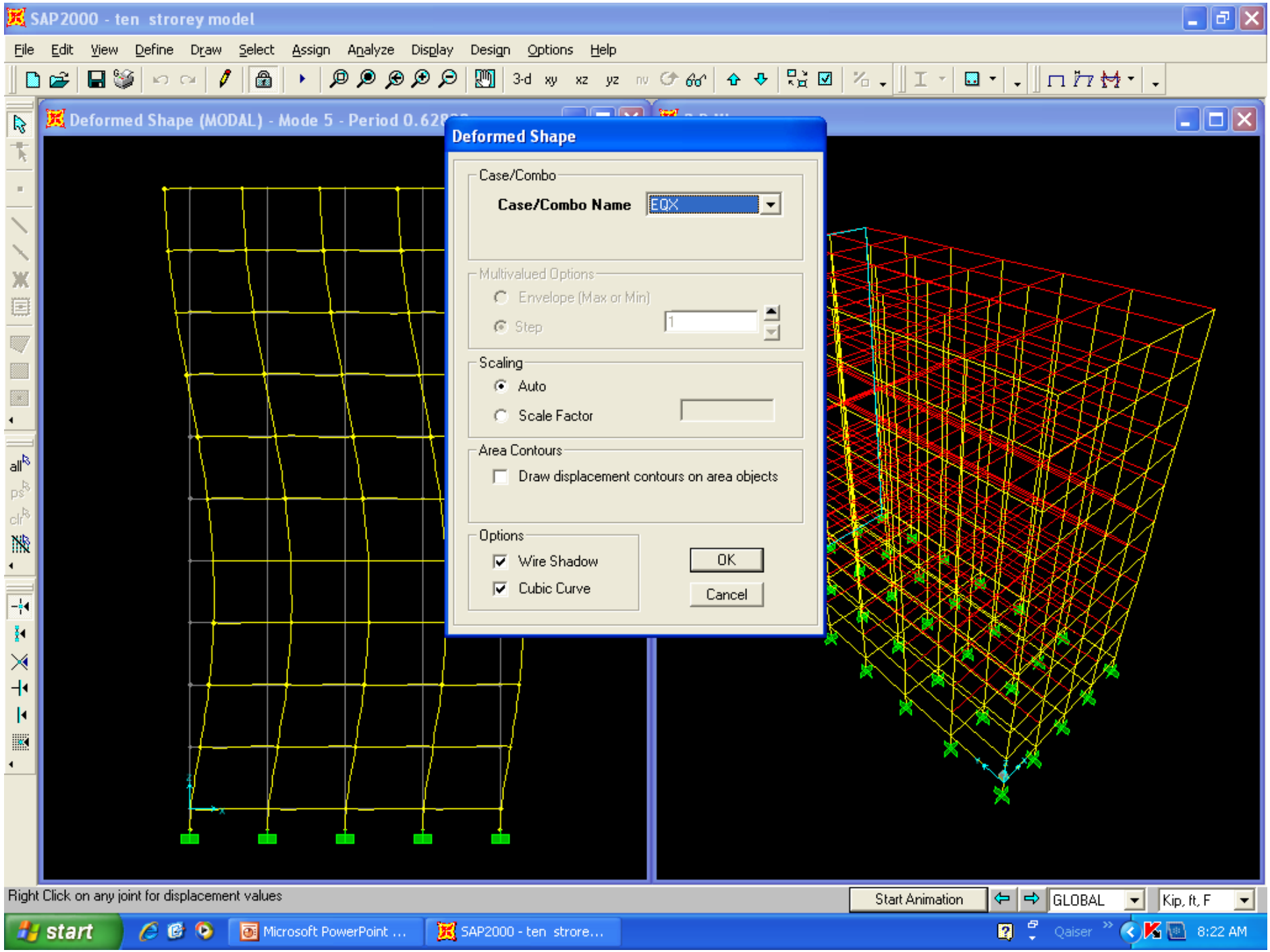

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
Deformed Shape (MODAL) - Mode 2 - Period 1.91997
3-D View
Use Scroll Bar to change animation speed
Stop Animation
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:19 AM

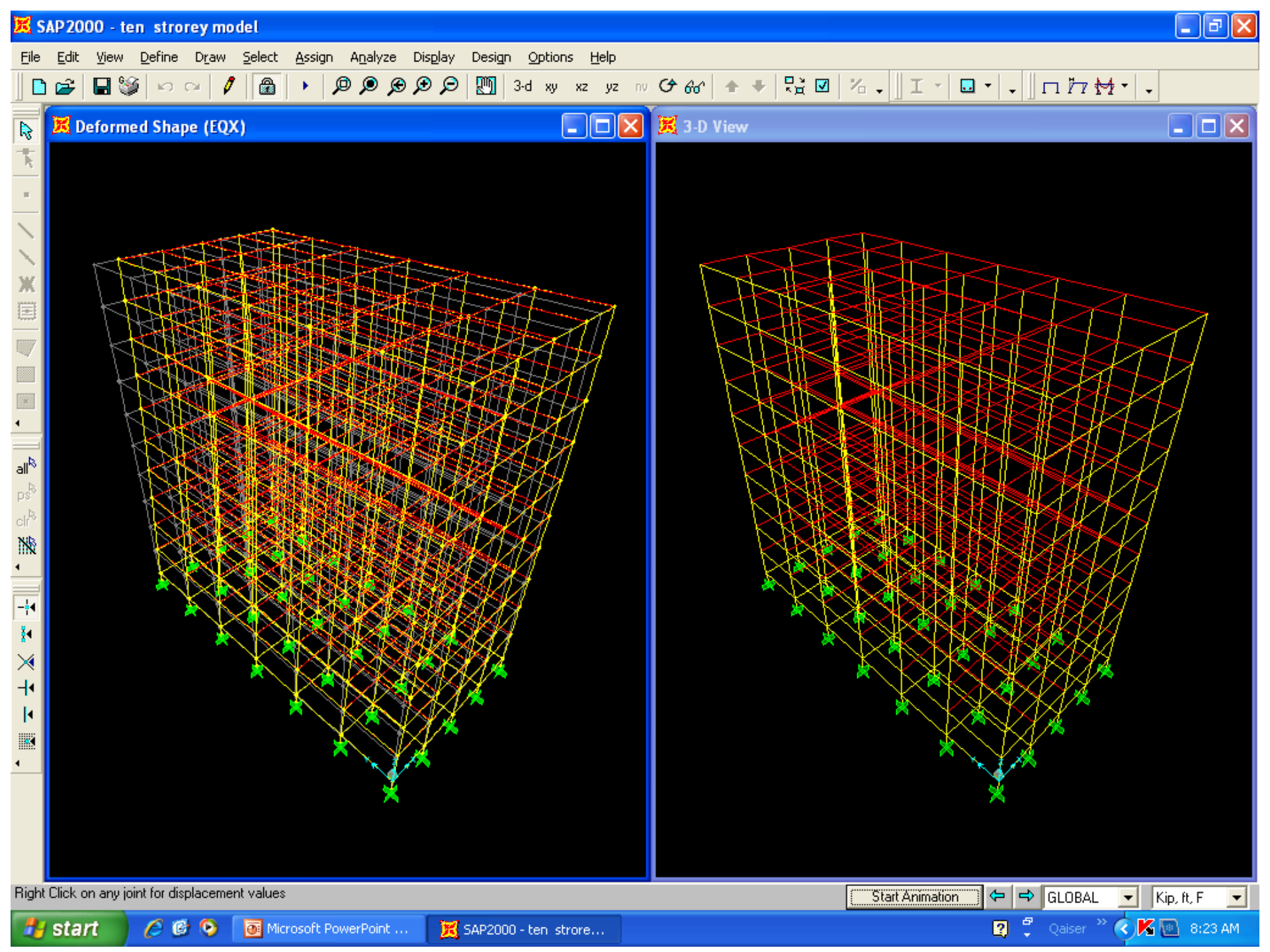

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Deformed Shape (MODAL) - Mode 2 - Period 1.91
Deformed Shape
Case/Combo
Case/Combo Name
MODAL
Multivalued Options
Envelope (Max or Min)
Mode Number
5
Scaling
Auto
Scale Factor
Area Contours
Draw displacement contours on area objects
Options
Wire Shadow
Cubic Curve
OK
Cancel
Right Click on any joint for displacement values
Start Animation
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:20 AM

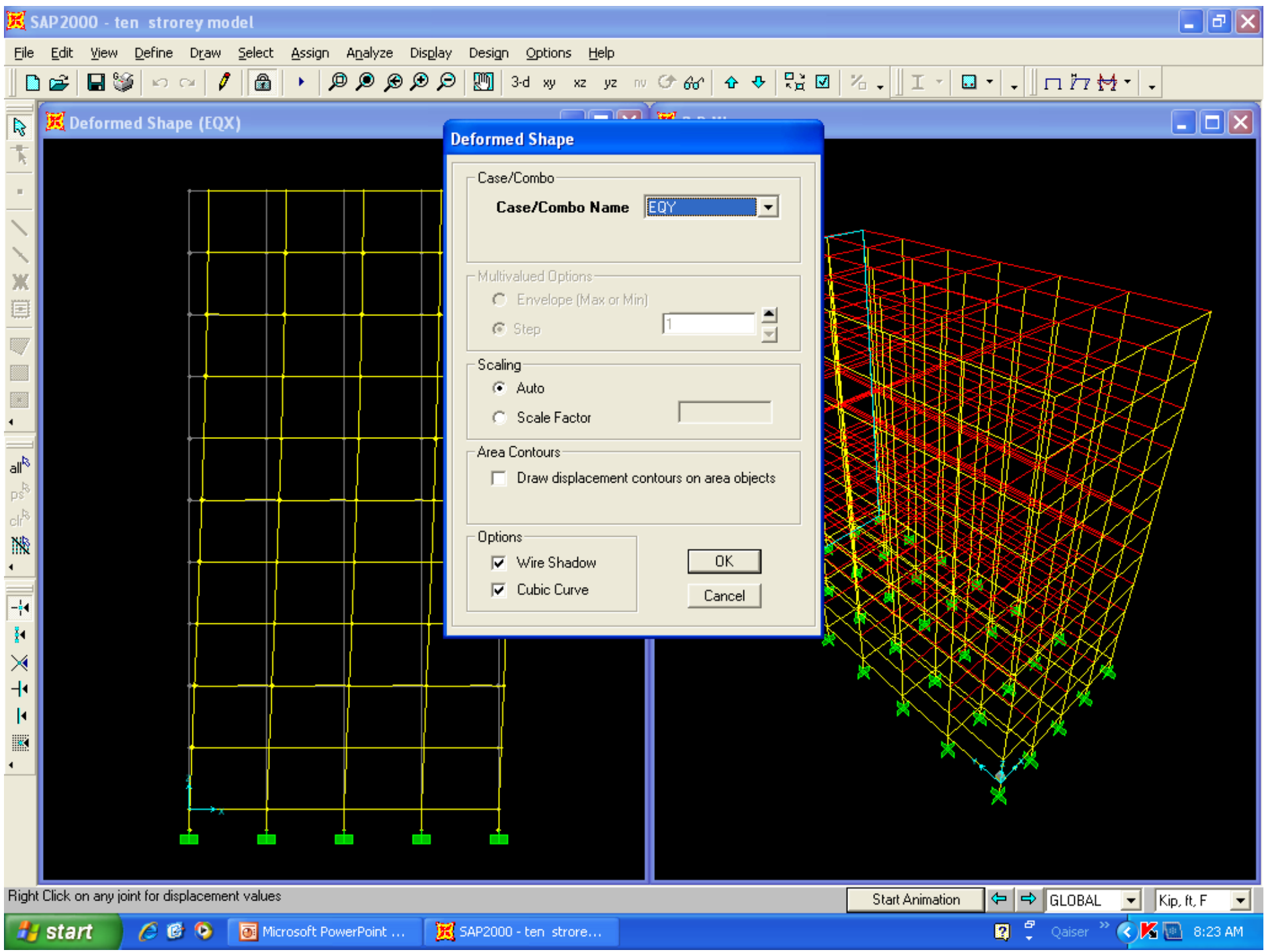

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Deformed Shape (MODAL) - Mode 5 - Period 0.62828
3-D View
Right Click on any joint for displacement values
Start Animation
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
8:20 AM

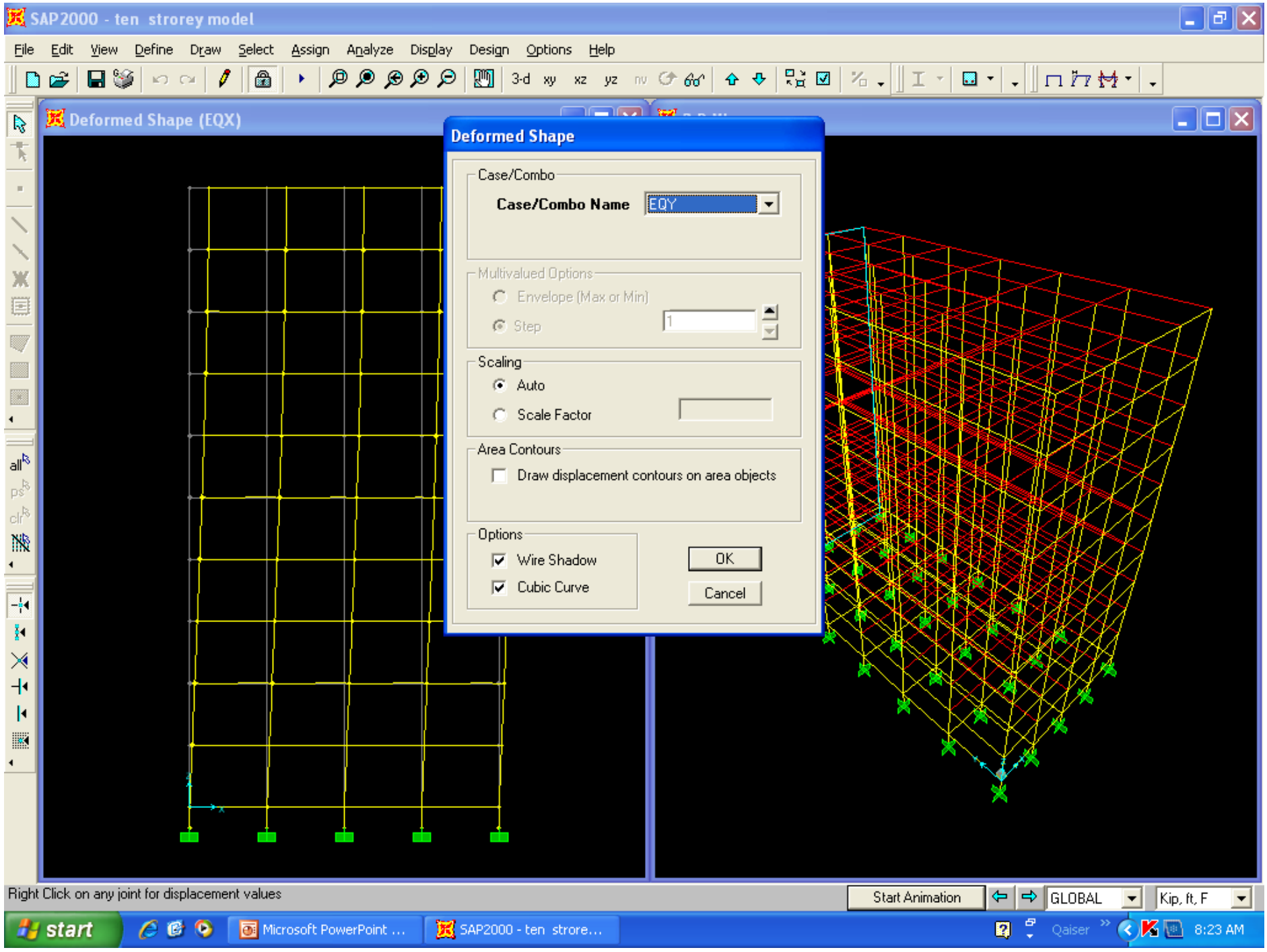

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Deformed Shape (MODAL) - Mode 5 - Period 0.62828
3-D View
Right Click on any joint for displacement values
Start Animation
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
8:21 AM

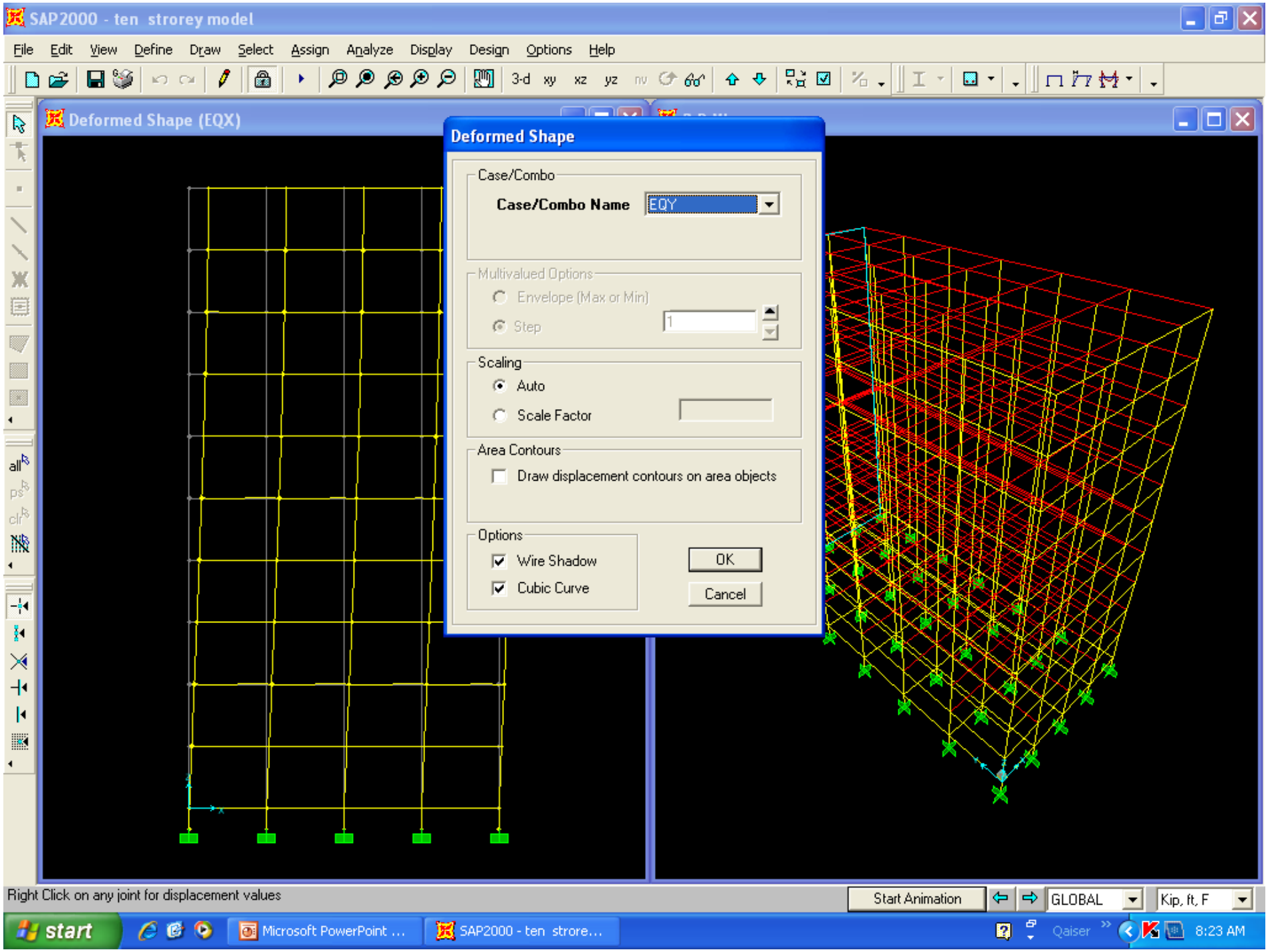

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
Deformed Shape (MODAL) - Mode 5 - Period 0.62828
3-D View
Show Deformed Shape... (F6)
Right Click on any joint for displacement values
Start Animation
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:21 AM

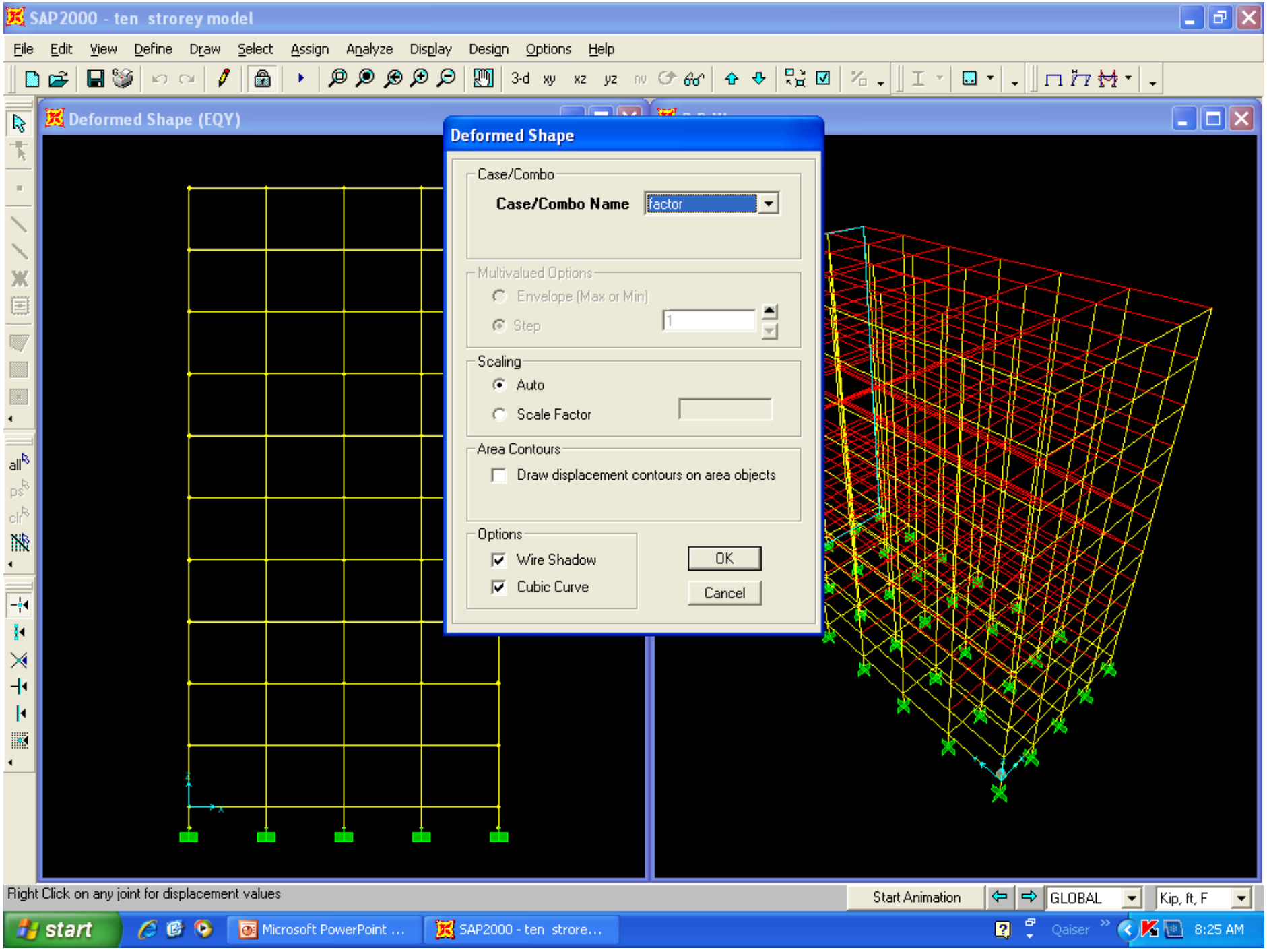

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
Deformed Shape (MODAL) - Mode 5 - Period 0.62
Deformed Shape
Case/Combo
Case/Combo Name
EQX
Multivalued Options
Envelope (Max or Min)
Step
1
Scaling
Auto
Scale Factor
Area Contours
Draw displacement contours on area objects
Options
Wire Shadow
Cubic Curve
OK
Cancel
Right Click on any joint for displacement values
Start Animation
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:22 AM


SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
Deformed Shape (EQX)
3-D View
Right Click on any joint for displacement values
Start Animation
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:23 AM


SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Deformed Shape (EQX)
Deformed Shape
Case/Combo
Case/Combo Name
EQY
Multivalued Options
Envelope (Max or Min)
Step
1
Scaling
Auto
Scale Factor
Area Contours
Draw displacement contours on area objects
Options
Wire Shadow
Cubic Curve
OK
Cancel
Right Click on any joint for displacement values
Start Animation
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:23 AM


SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
Deformed Shape (EQX)
Deformed Shape
Case/Combo
Case/Combo Name
EQY
Multivalued Options
Envelope (Max or Min)
Step
1
Scaling
Auto
Scale Factor
Area Contours
Draw displacement contours on area objects
Options
Wire Shadow
Cubic Curve
OK
Cancel
Right Click on any joint for displacement values
Start Animation
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:23 AM


SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Deformed Shape (EQX)
Deformed Shape
Case/Combo
Case/Combo Name
EQY
Multivalued Options
Envelope (Max or Min)
Step
1
Scaling
Auto
Scale Factor
Area Contours
Draw displacement contours on area objects
Options
Wire Shadow
Cubic Curve
OK
Cancel
Right Click on any joint for displacement values
Start Animation
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:23 AM

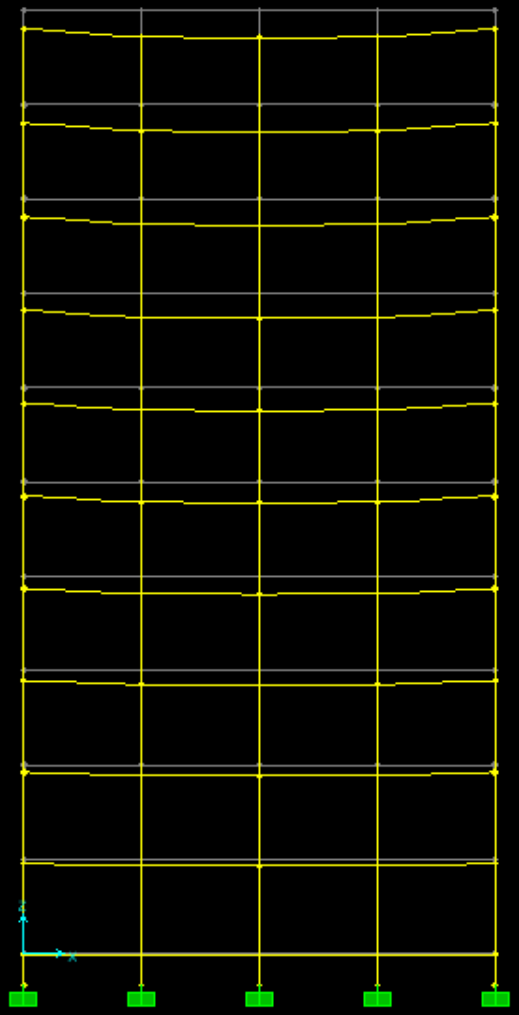

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
Deformed Shape (EQY)
Deformed Shape
Case/Combo
Case/Combo Name
factor
Multivalued Options
Envelope (Max or Min)
Step
1
Scaling
Auto
Scale Factor
Area Contours
Draw displacement contours on area objects
Options
Wire Shadow
Cubic Curve
OK
Cancel
Right Click on any joint for displacement values
Start Animation
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:25 AM

SAP2000 - ten strorey model

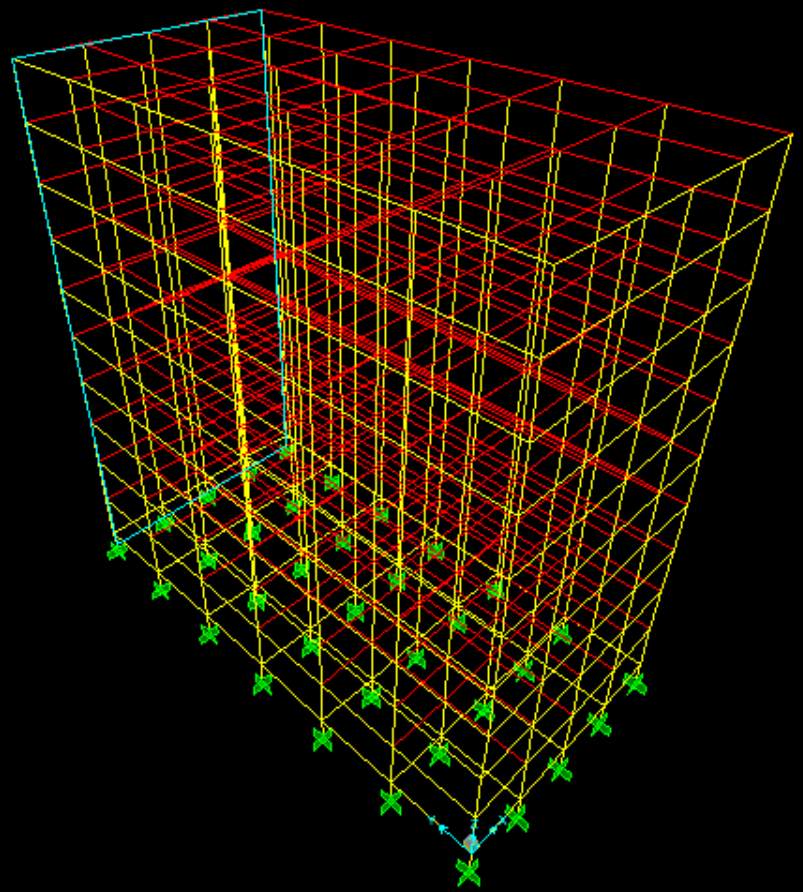
File Edit View Define Draw Select Assign Analyze Display Design Options Help

3-d xy xz yz nv

Deformed Shape (factor)



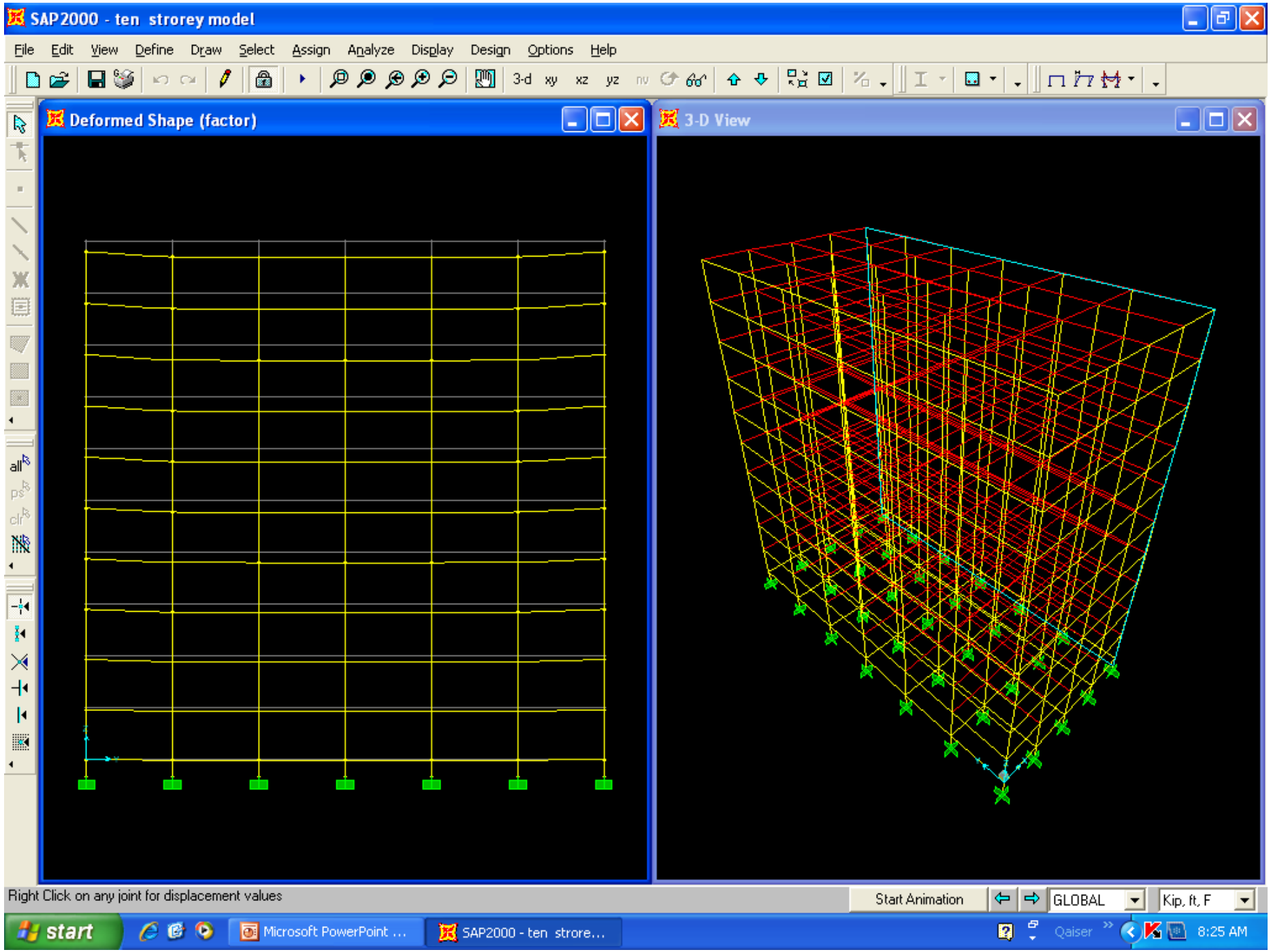
3-D View

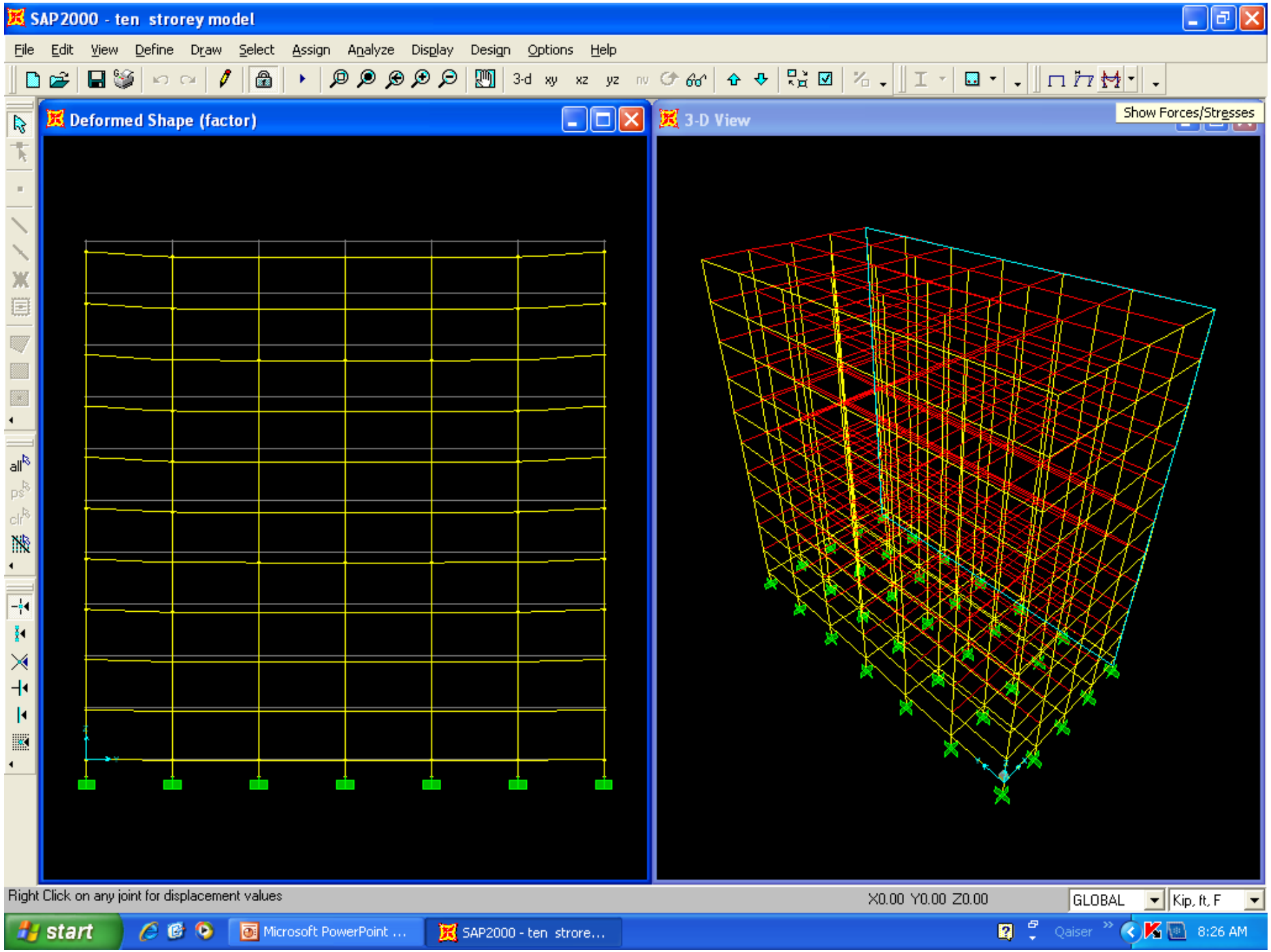


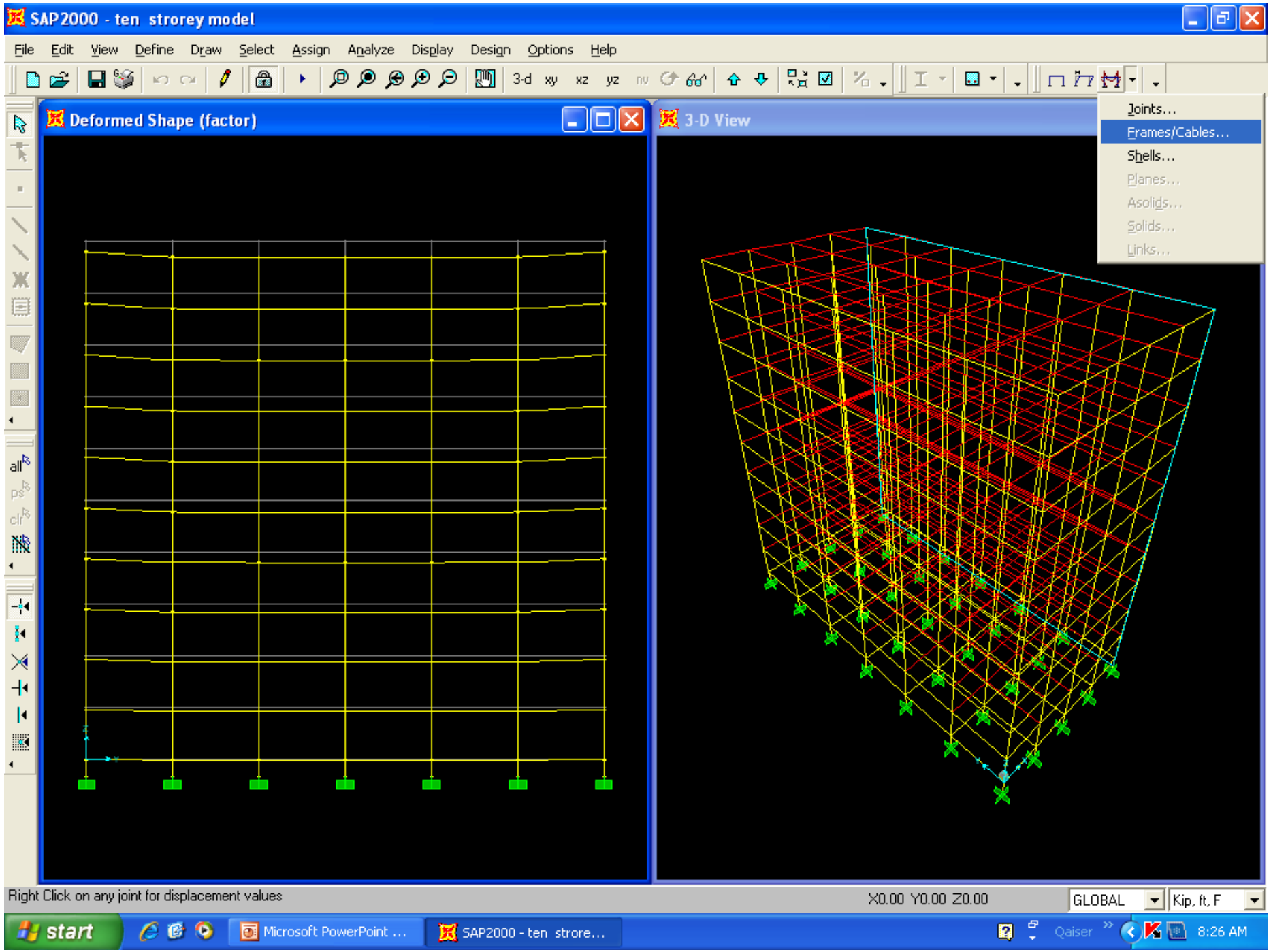
Right Click on any joint for displacement values

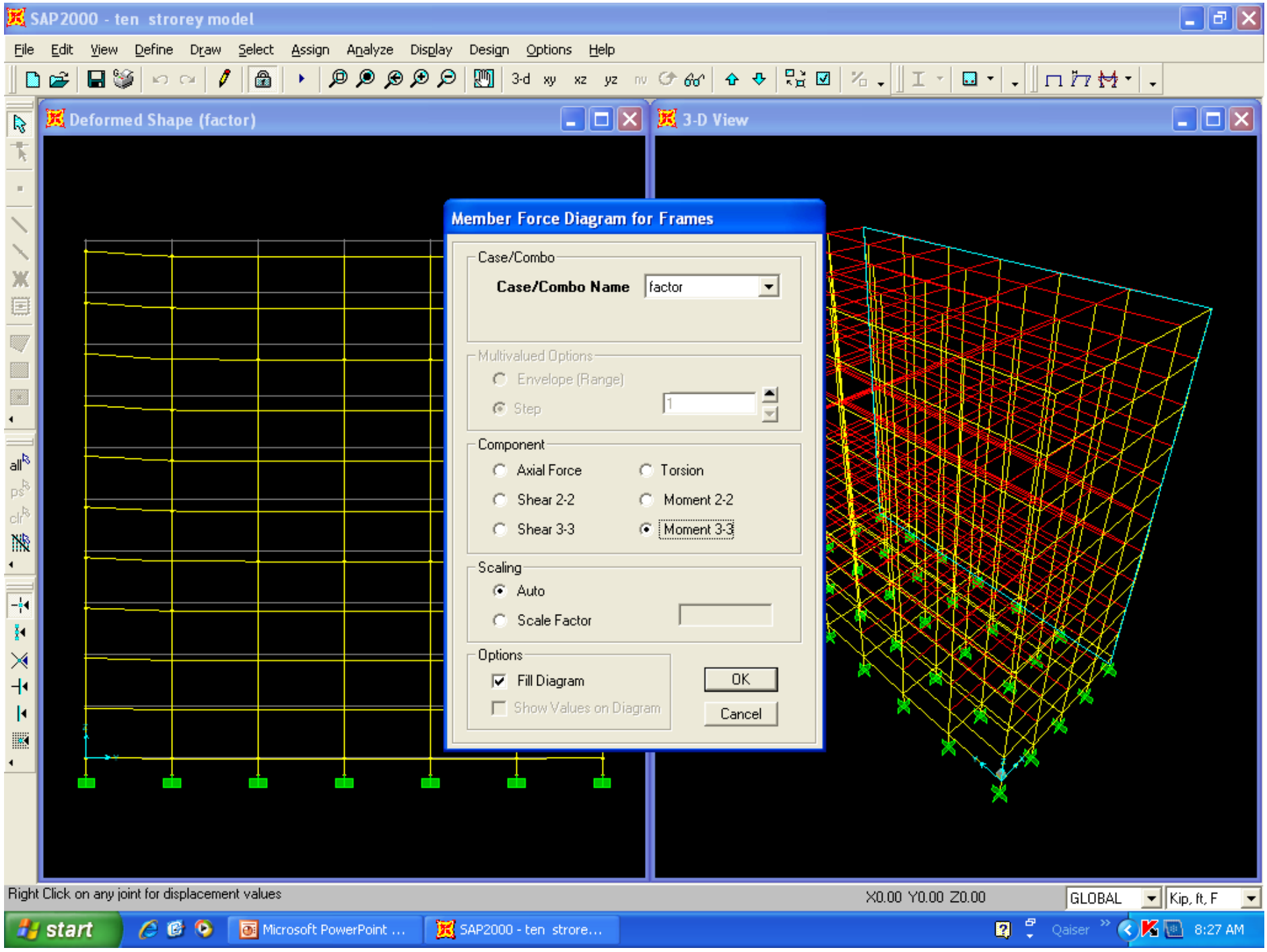
Start Animation GLOBAL Kip, ft, F

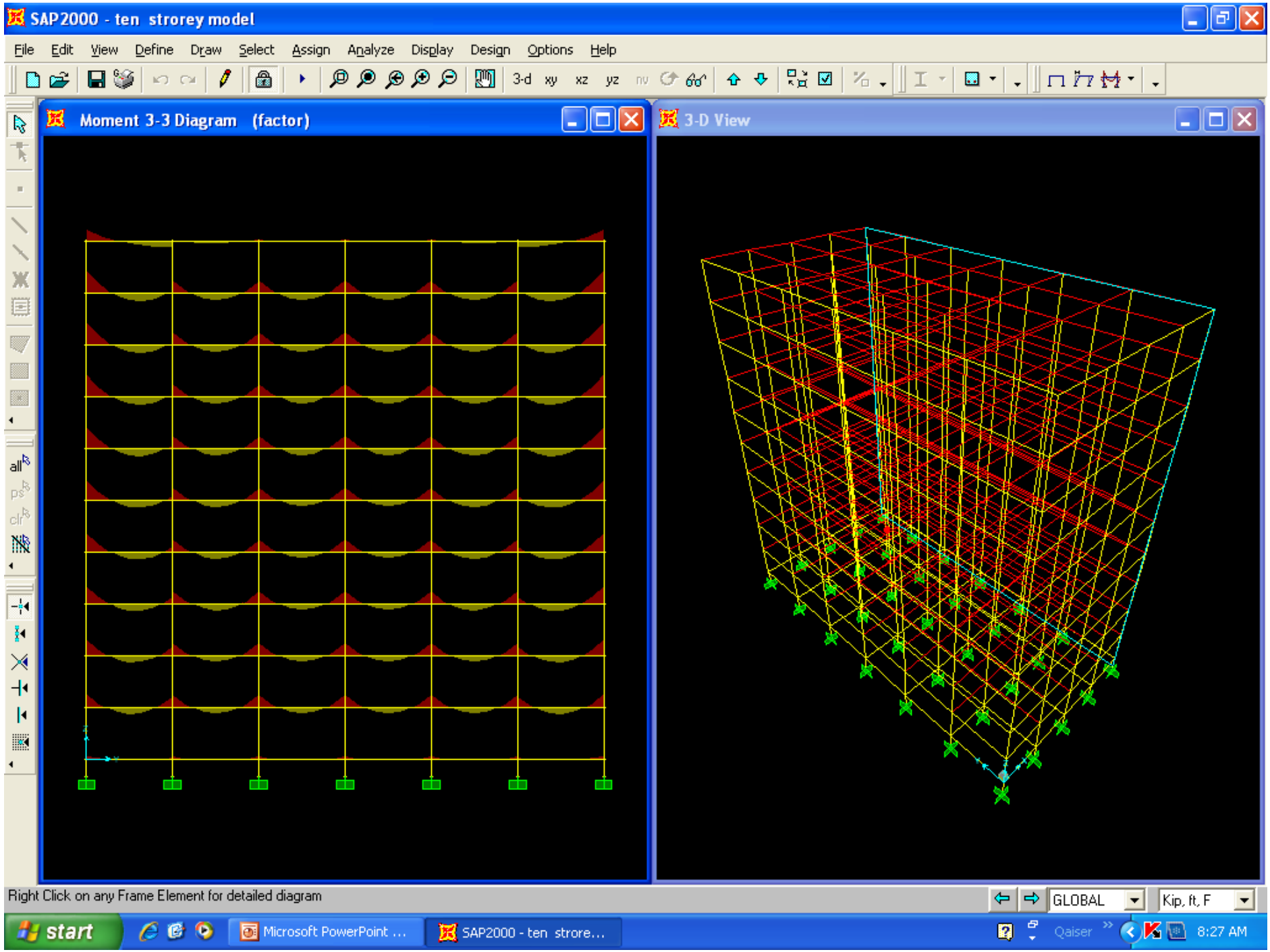
start Microsoft PowerPoint ... SAP2000 - ten strore... Qaiser 8:25 AM

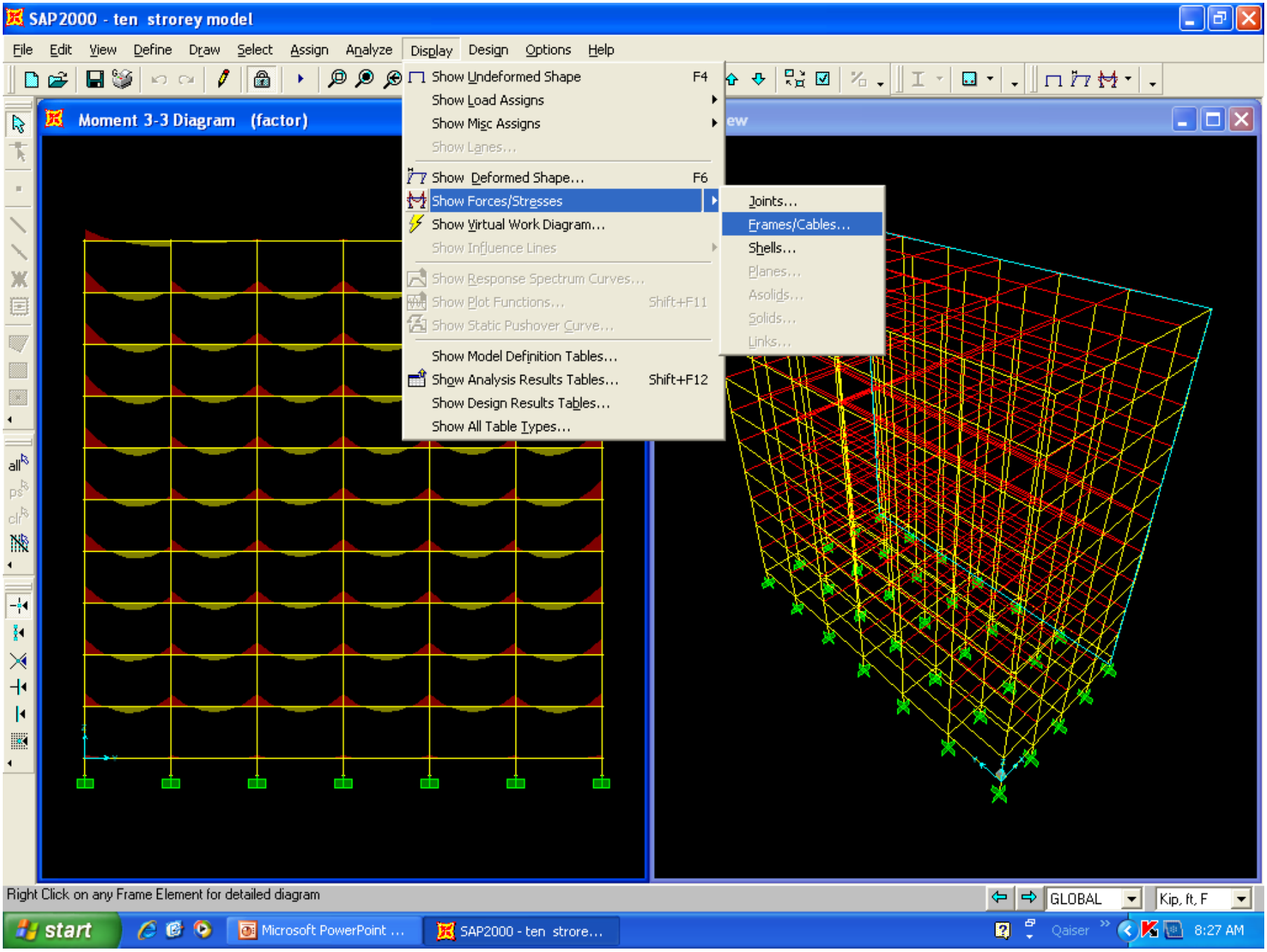

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz
Deformed Shape (factor)
3-D View
Right Click on any joint for displacement values
Start Animation
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:25 AM

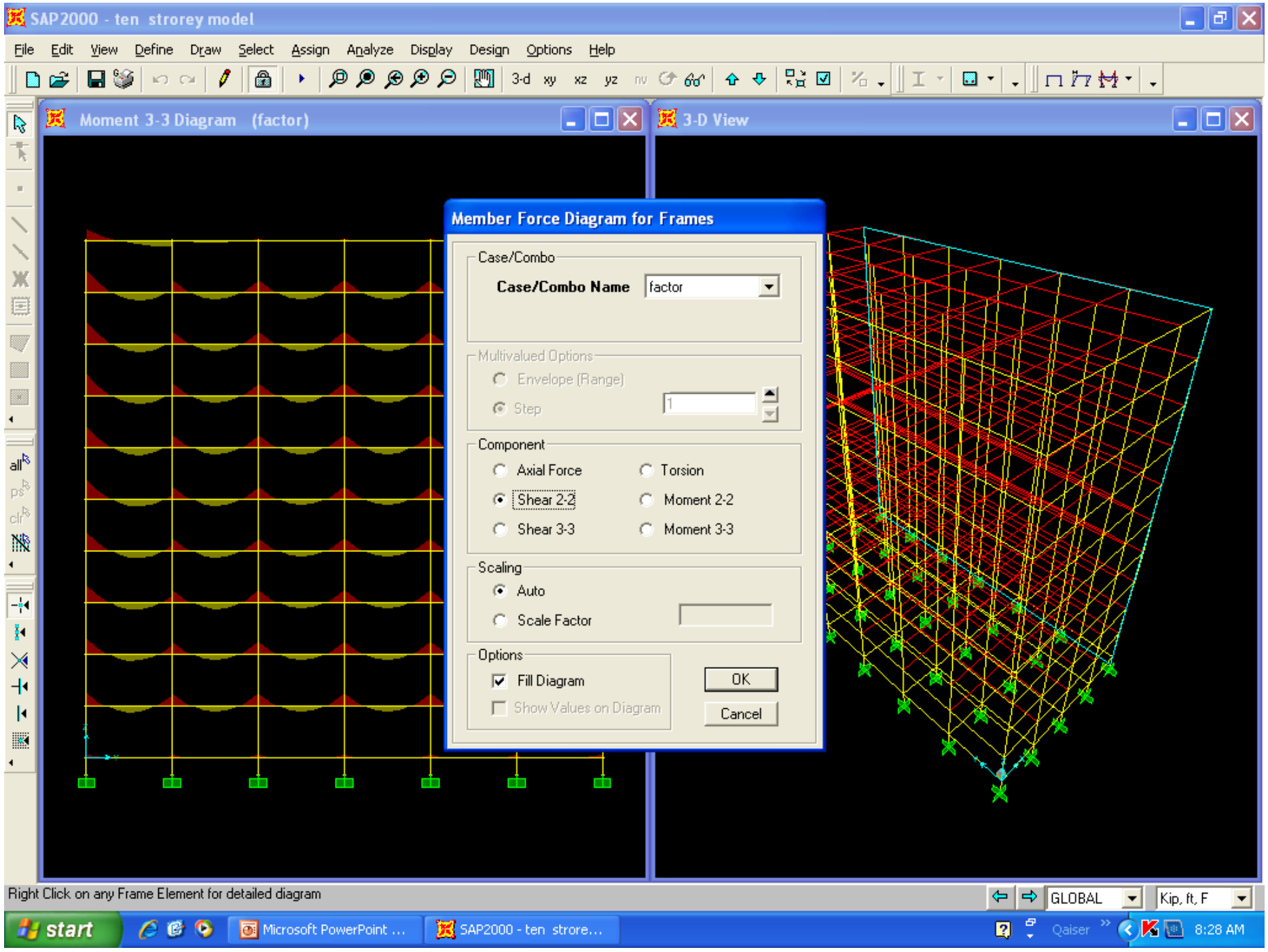

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz
Deformed Shape (factor)
3-D View
Show Forces/Stresses
Right Click on any joint for displacement values
X0.00 Y0.00 Z0.00
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:26 AM

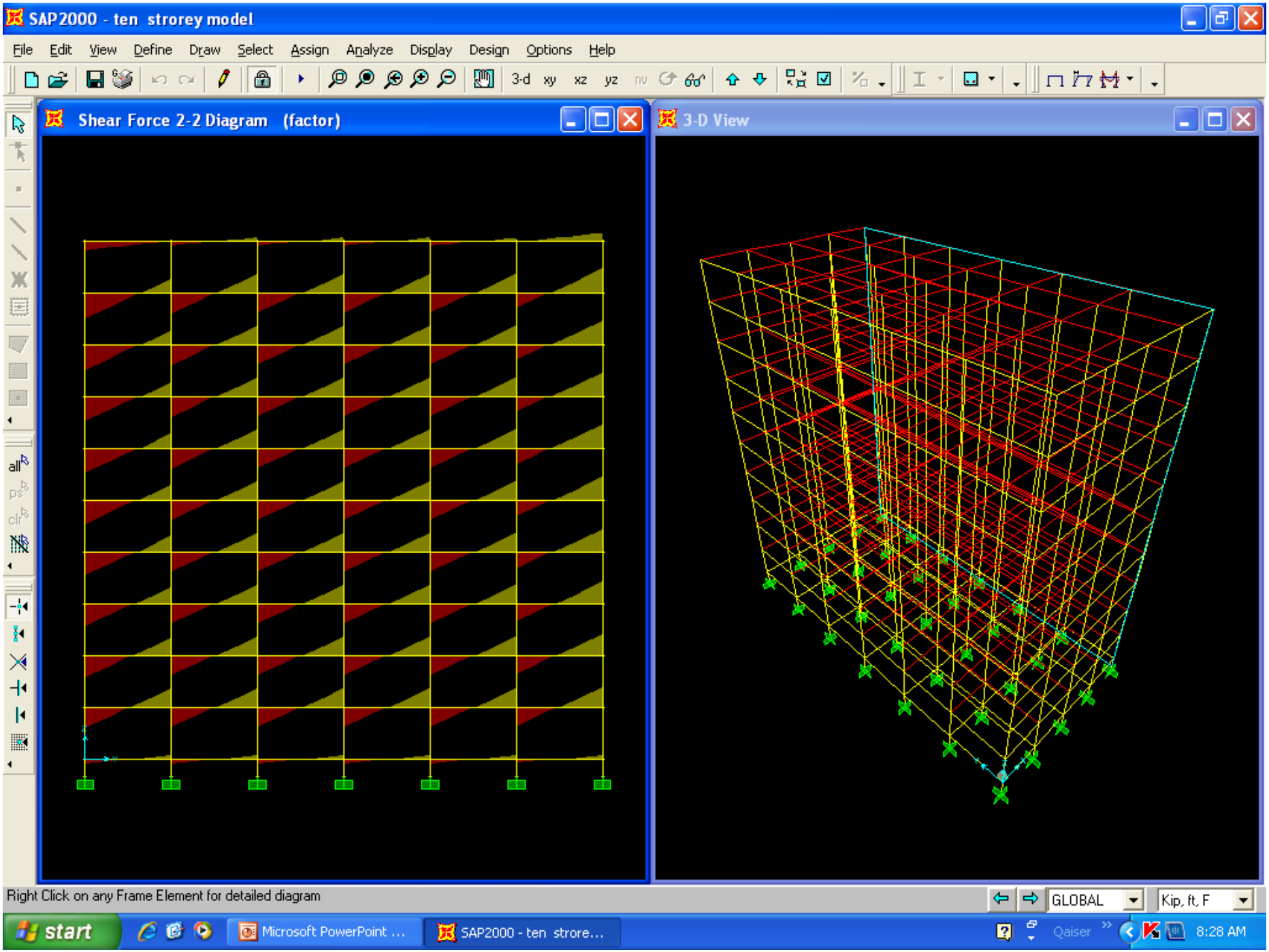

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Deformed Shape (factor)
3-D View
Joints...
Frames/Cables...
Shells...
Planes...
Asolids...
Solids...
Links...
Right Click on any joint for displacement values
X0.00 Y0.00 Z0.00
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:26 AM

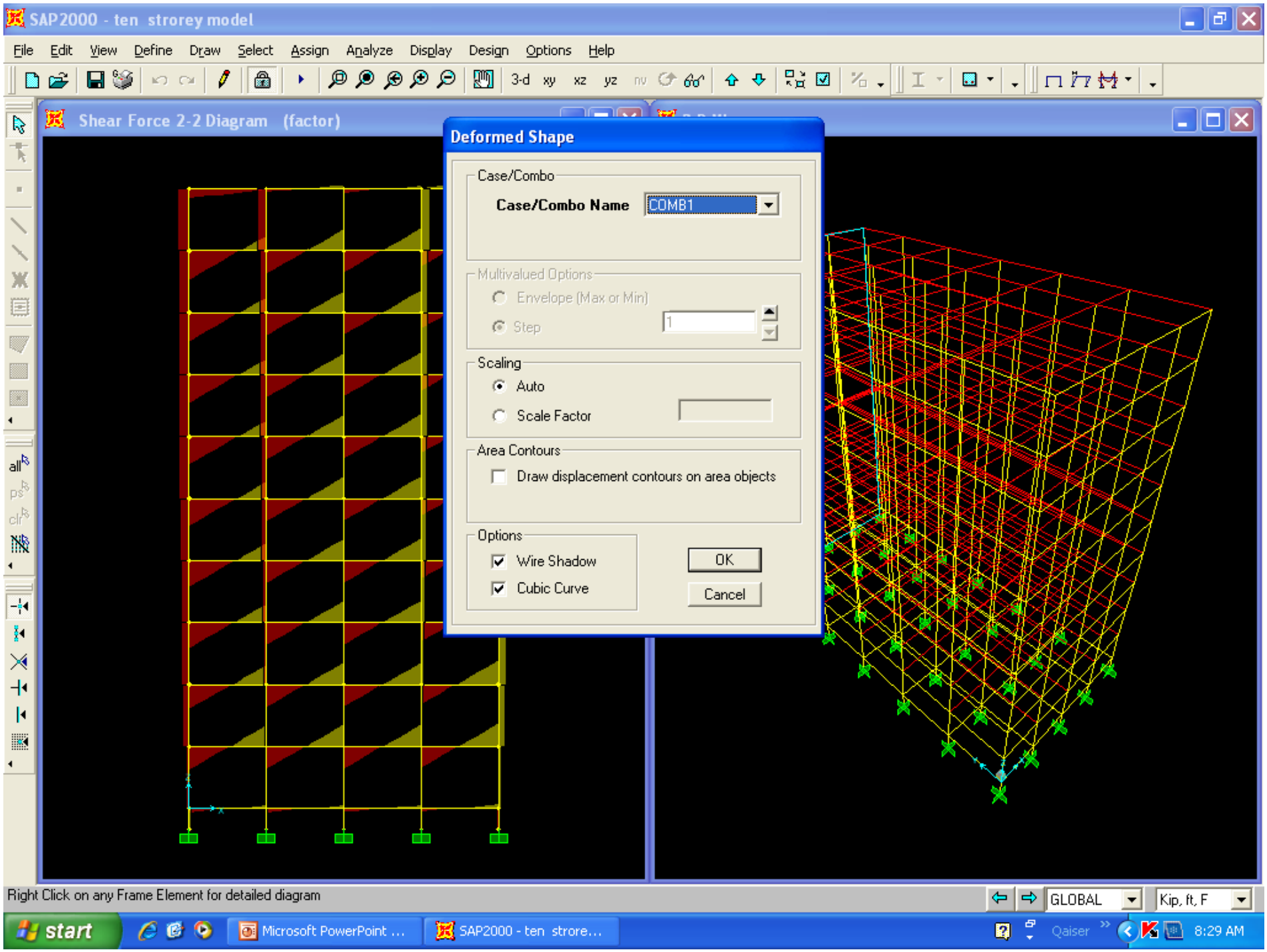

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Deformed Shape (factor)
3-D View
Member Force Diagram for Frames
Case/Combo
Case/Combo Name
factor
Multivalued Options
Envelope (Range)
Step
1
Component
Axial Force
Torsion
Shear 2-2
Moment 2-2
Shear 3-3
Moment 3-3
Scaling
Auto
Scale Factor
Options
Fill Diagram
Show Values on Diagram
OK
Cancel
Right Click on any joint for displacement values
X0.00 Y0.00 Z0.00
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:27 AM

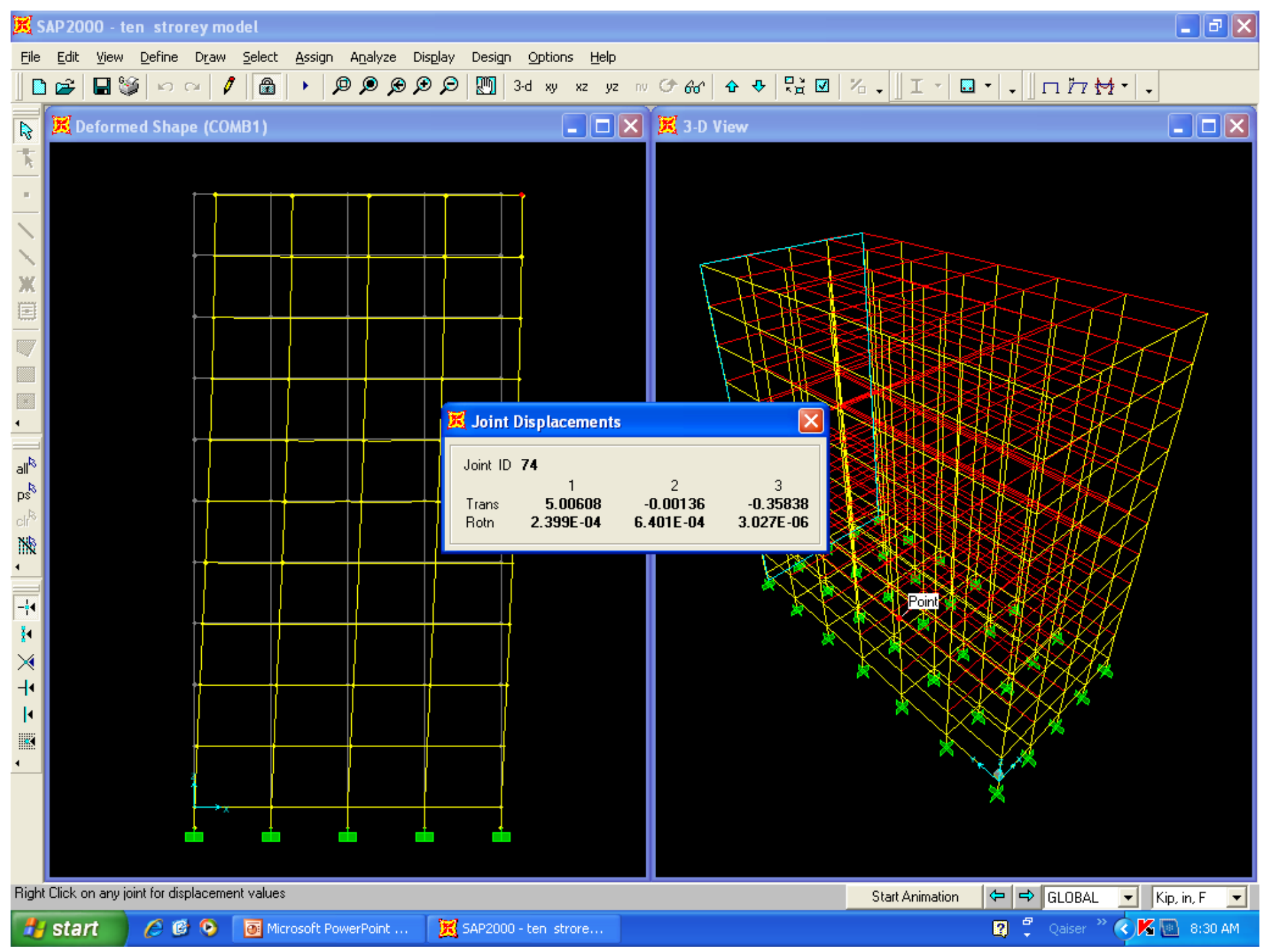

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz
Moment 3-3 Diagram (factor)
3-D View
Right Click on any Frame Element for detailed diagram
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:27 AM

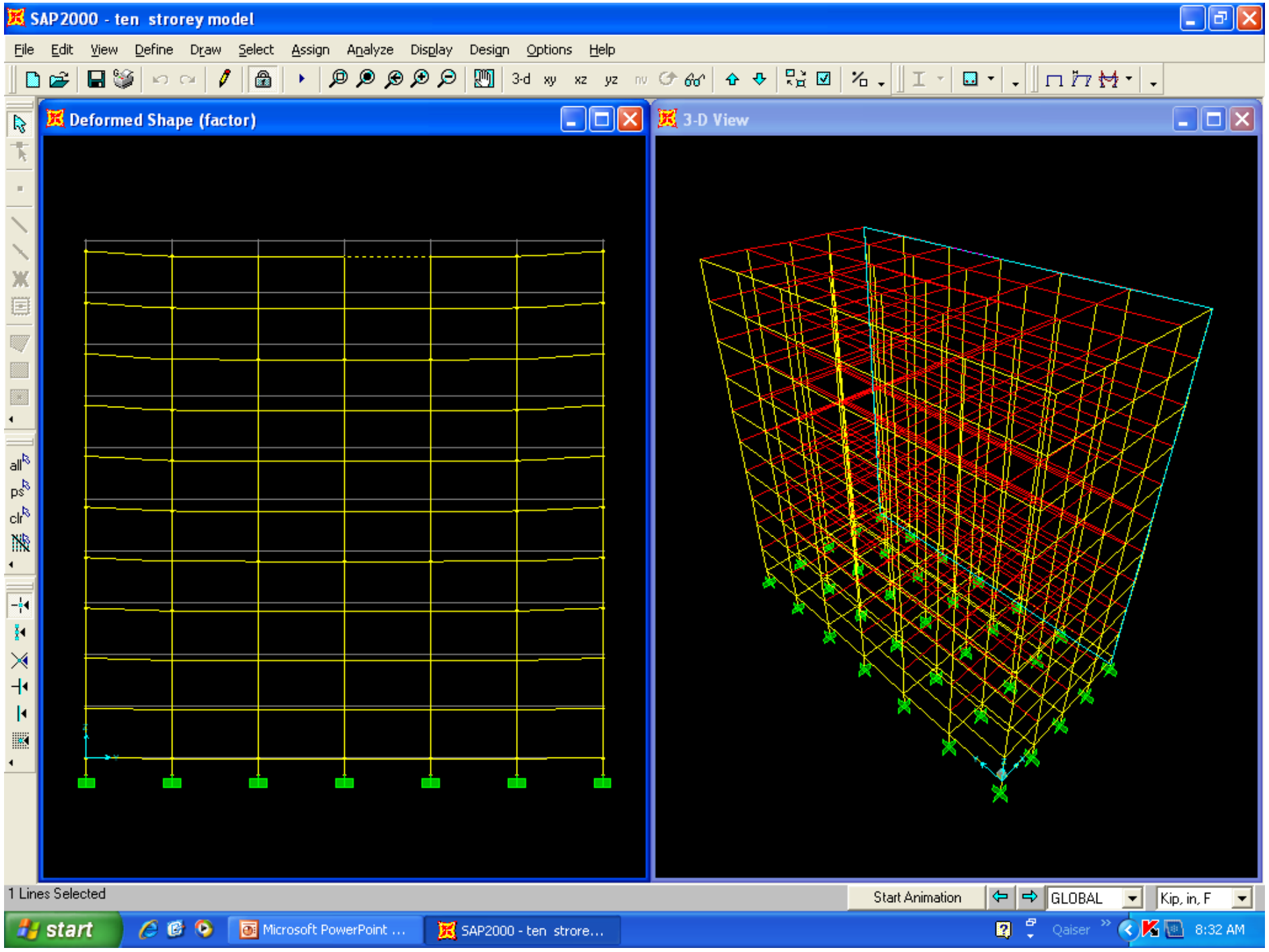

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Moment 3-3 Diagram (factor)
Show Undeformed Shape F4
Show Load Assigns
Show Misc Assigns
Show Lanes...
Show Deformed Shape... F6
Show Forces/Stresses
Show Virtual Work Diagram...
Show Influence Lines
Show Response Spectrum Curves...
Show Plot Functions... Shift+F11
Show Static Pushover Curve...
Show Model Definition Tables...
Show Analysis Results Tables... Shift+F12
Show Design Results Tables...
Show All Table Types...
Joints...
Frames/Cables...
Shells...
Planes...
Asolids...
Solids...
Links...
Right Click on any Frame Element for detailed diagram
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
8:27 AM

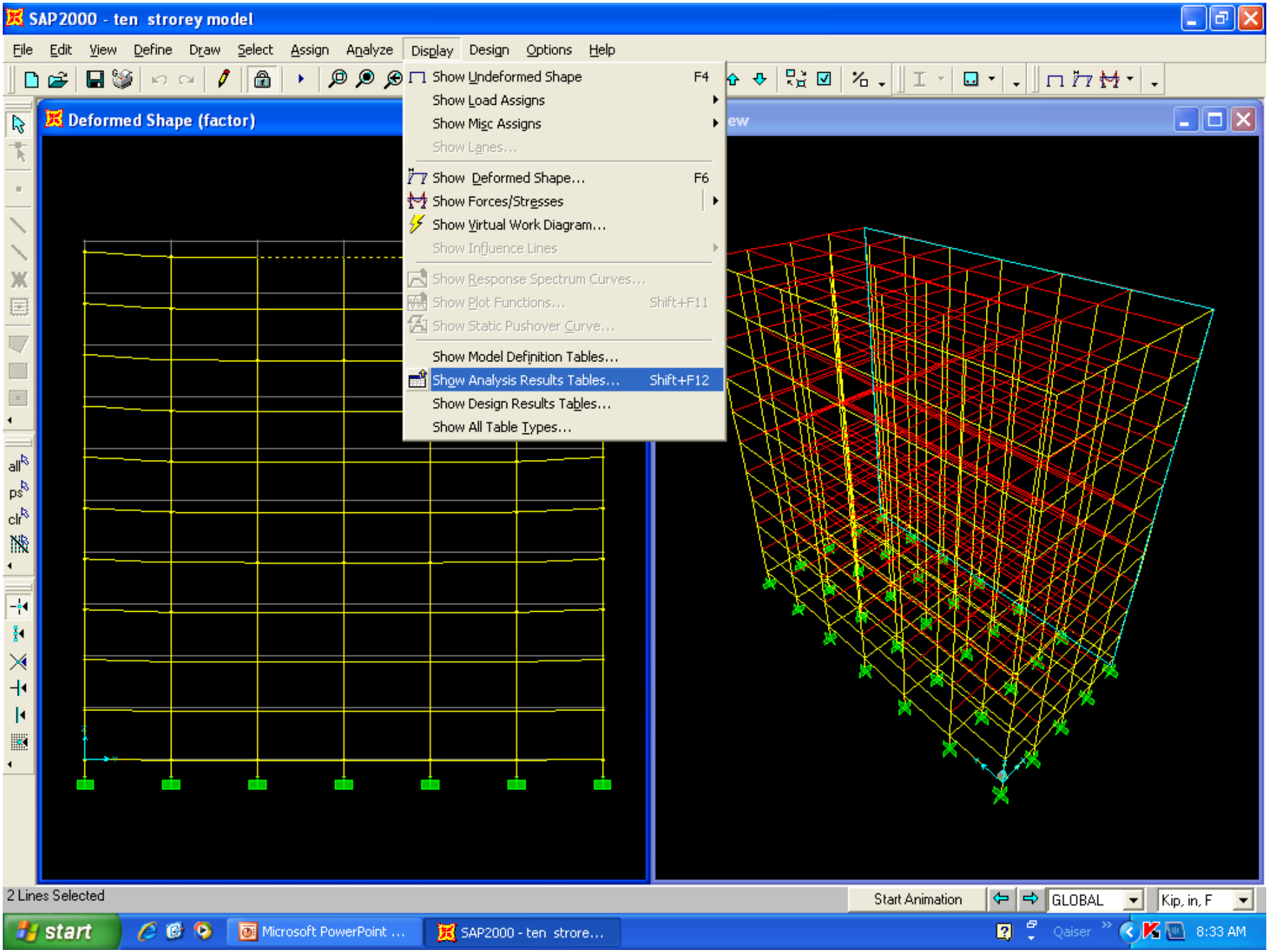

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Moment 3-3 Diagram (factor)
3-D View
Member Force Diagram for Frames
Case/Combo
Case/Combo Name
factor
Multivalued Options
Envelope (Range)
Step
1
Component
Axial Force
Torsion
Shear 2-2
Moment 2-2
Shear 3-3
Moment 3-3
Scaling
Auto
Scale Factor
Options
Fill Diagram
Show Values on Diagram
OK
Cancel
Right Click on any Frame Element for detailed diagram
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:28 AM

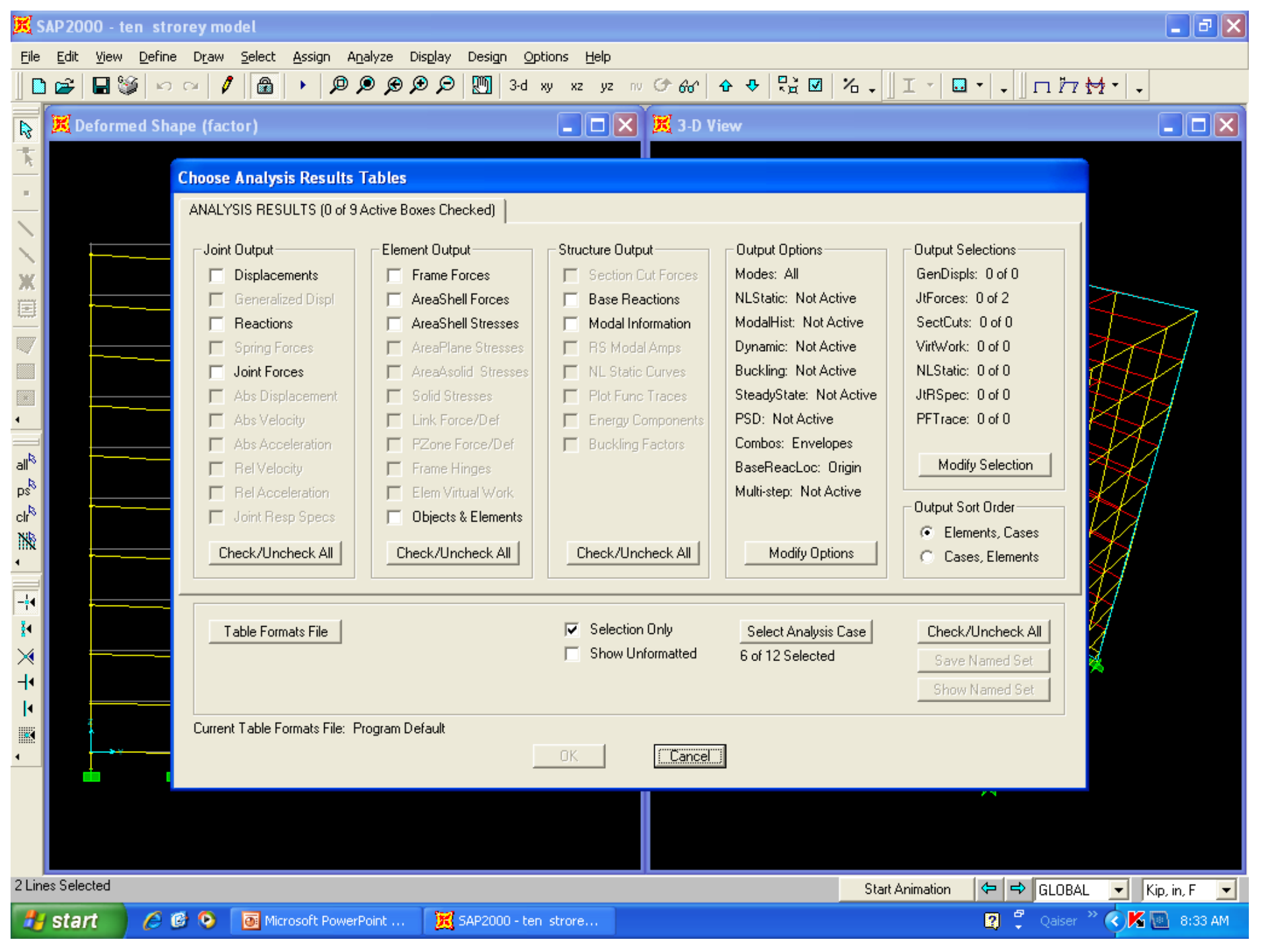

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
Shear Force 2-2 Diagram (factor)
3-D View
Right Click on any Frame Element for detailed diagram
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:28 AM

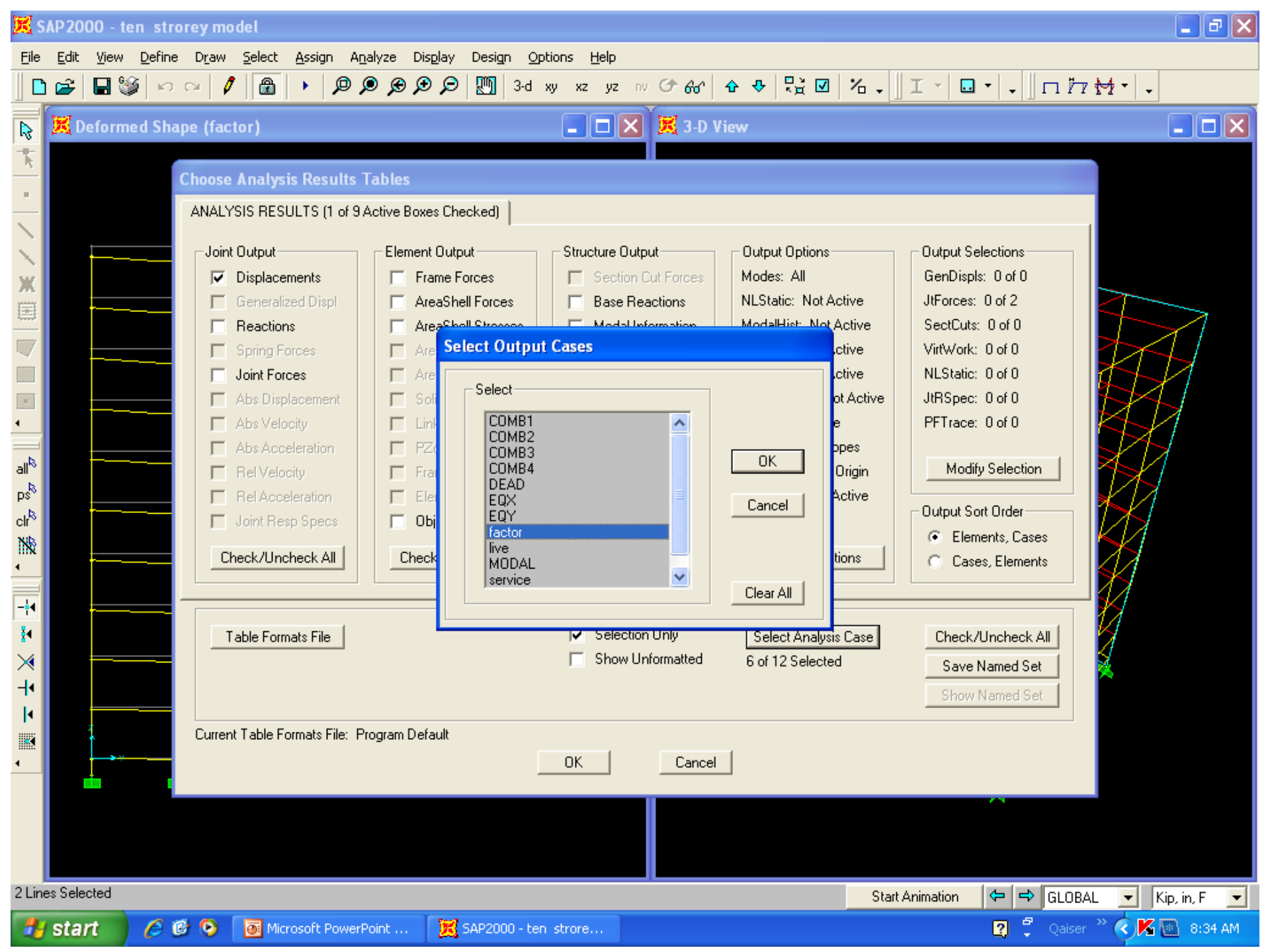

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Shear Force 2-2 Diagram (factor)
Deformed Shape
Case/Combo
Case/Combo Name
COMB1
Multivalued Options
Envelope (Max or Min)
Step
1
Scaling
Auto
Scale Factor
Area Contours
Draw displacement contours on area objects
Options
Wire Shadow
Cubic Curve
OK
Cancel
Right Click on any Frame Element for detailed diagram
GLOBAL
Kip, ft, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:29 AM

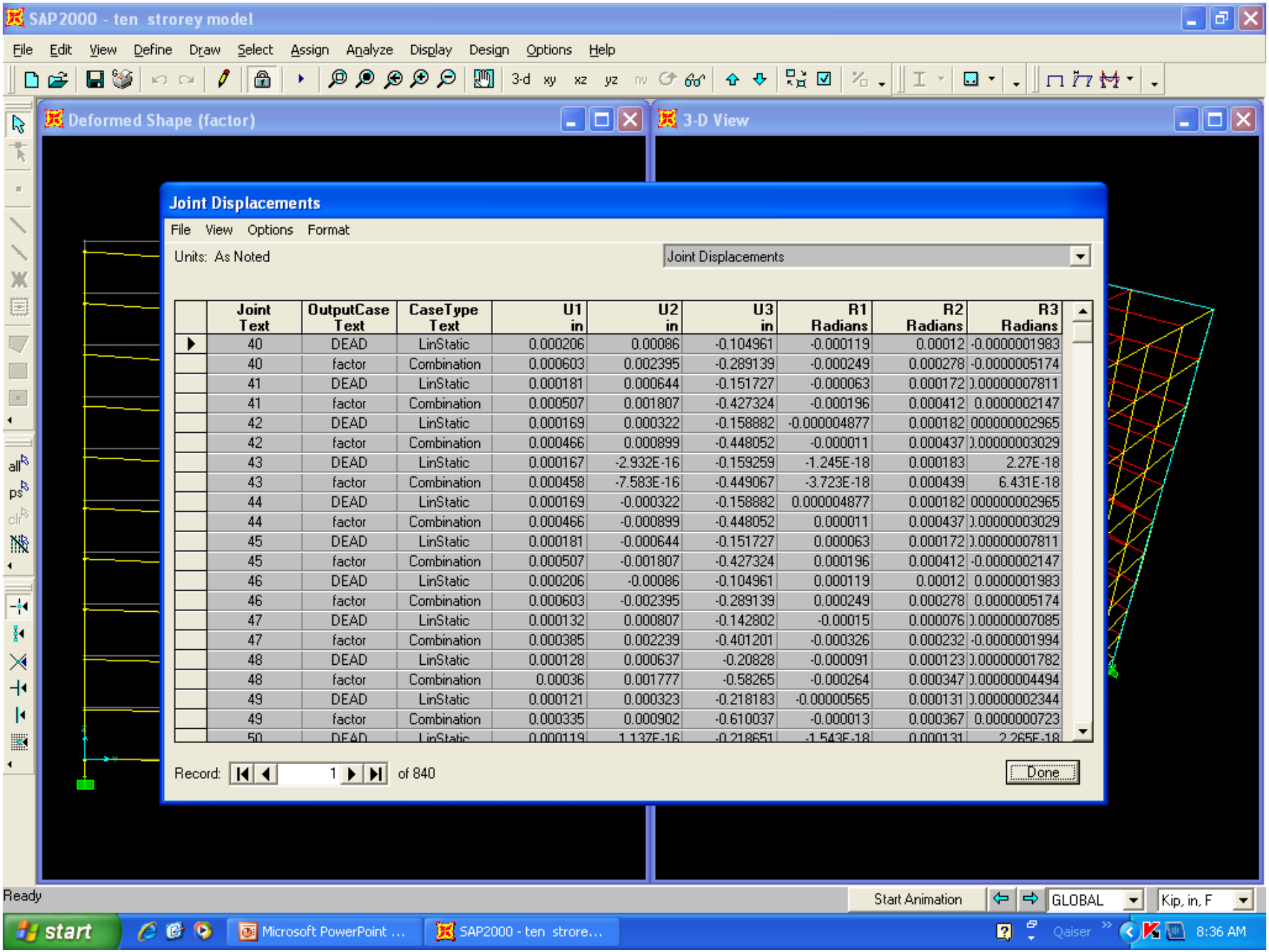

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Deformed Shape (COMB1)
3-D View
Joint Displacements
Joint ID 74
1 2 3
Trans 5.00608 -0.00136 -0.35838
Rotn 2.399E-04 6.401E-04 3.027E-06
Point
Right Click on any joint for displacement values
Start Animation
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:30 AM

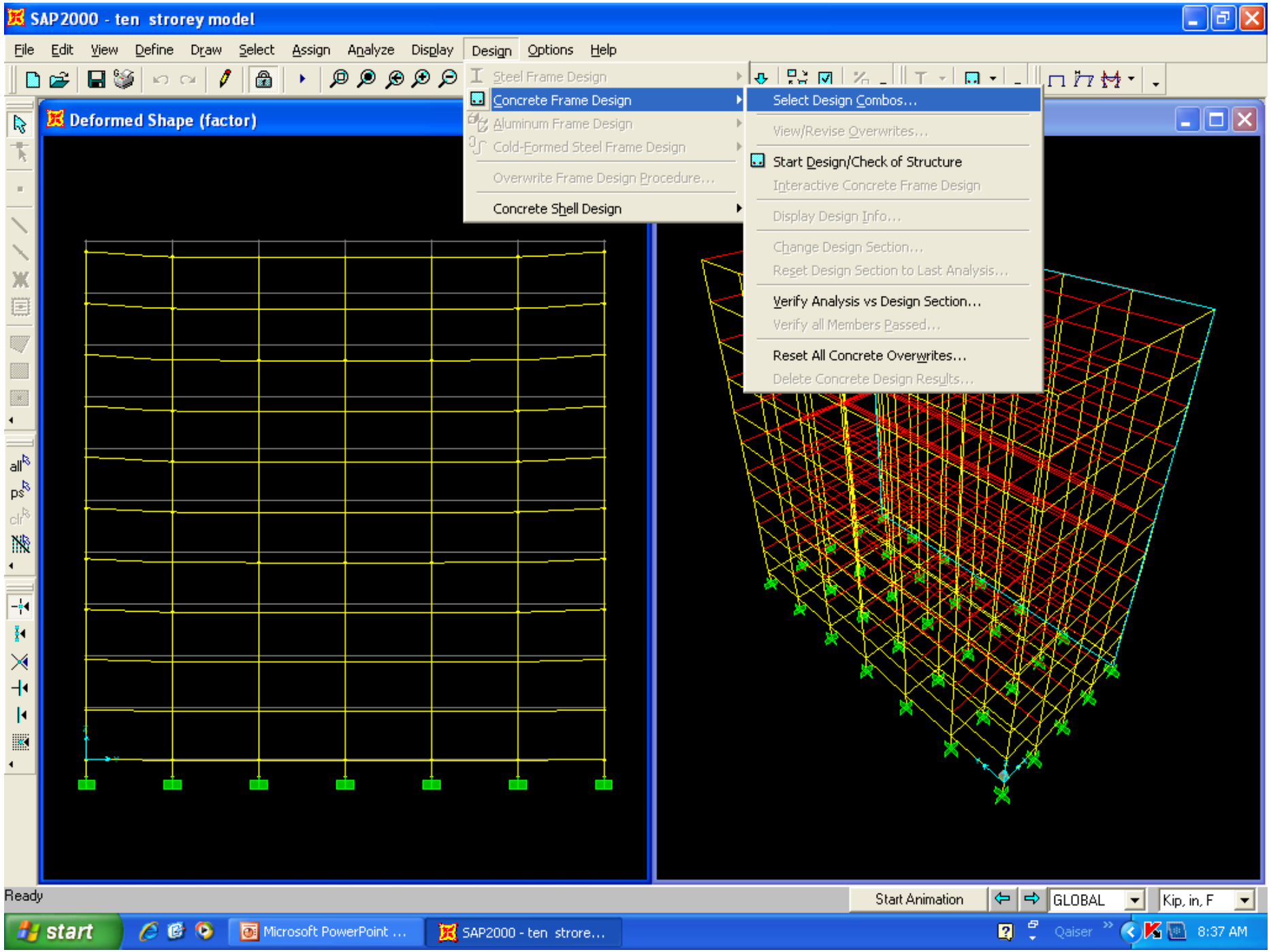

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
Deformed Shape (factor)
3-D View
all ps clr
1 Lines Selected
Start Animation
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:32 AM

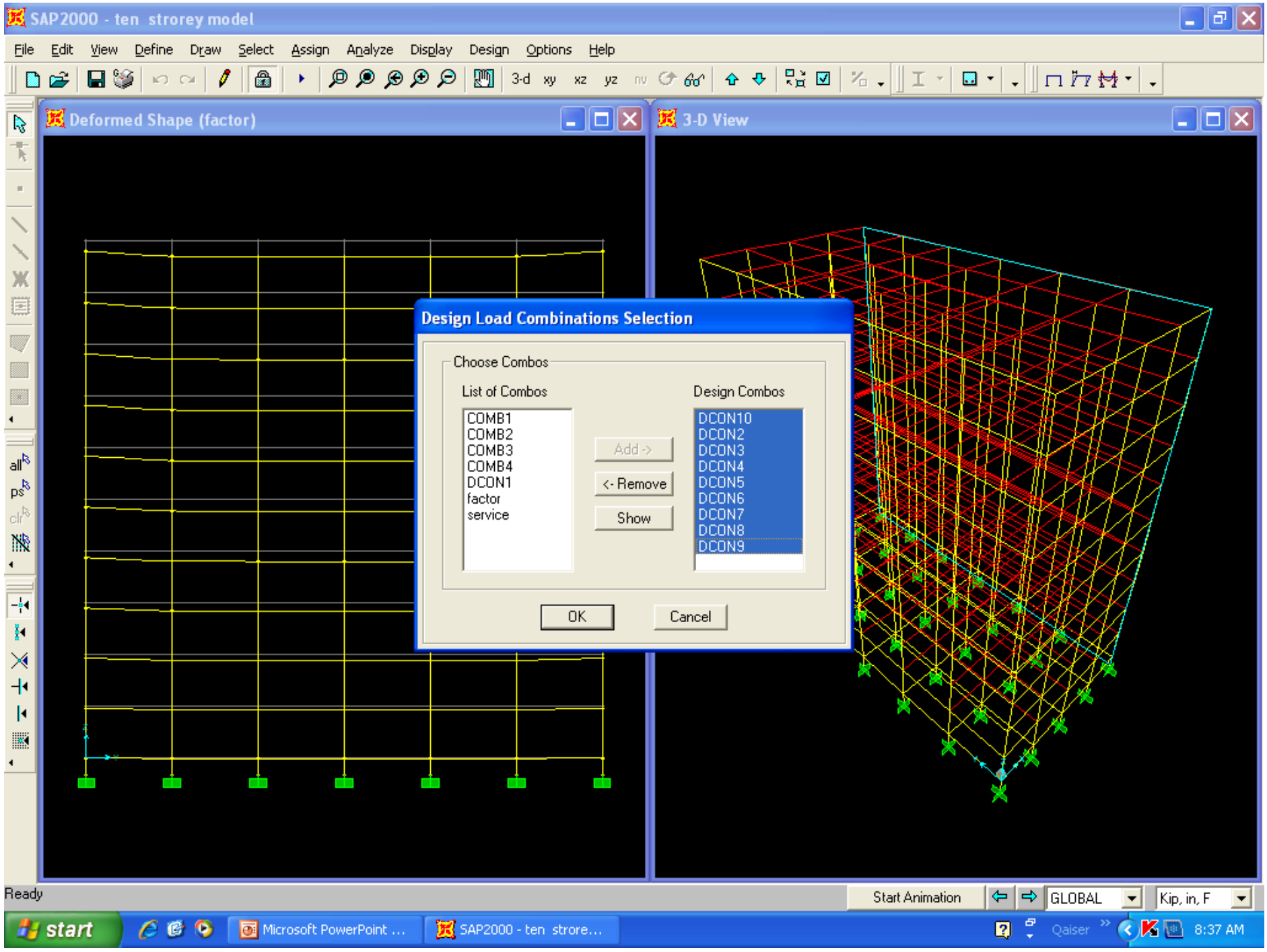

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Show Undeformed Shape F4
Show Load Assigns
Show Misc Assigns
Show Lanes...
Show Deformed Shape... F6
Show Forces/Stresses
Show Virtual Work Diagram...
Show Influence Lines
Show Response Spectrum Curves...
Show Plot Functions... Shift+F11
Show Static Pushover Curve...
Show Model Definition Tables...
Show Analysis Results Tables... Shift+F12
Show Design Results Tables...
Show All Table Types...
Deformed Shape (factor)
2 Lines Selected
Start Animation
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
8:33 AM

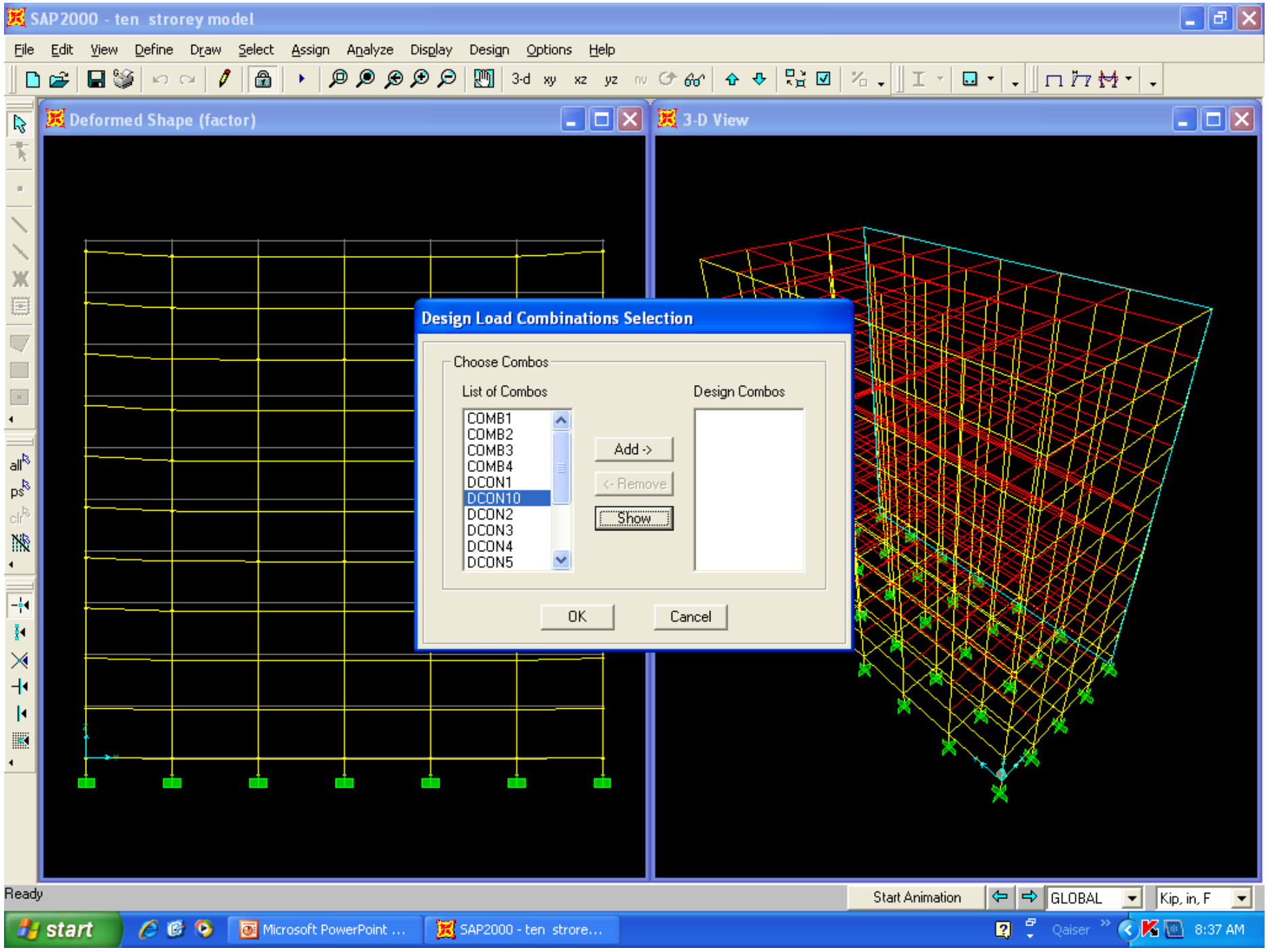

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Deformed Shape (factor)
3-D View
Choose Analysis Results Tables
ANALYSIS RESULTS (0 of 9 Active Boxes Checked)
Joint Output
Displacements
Generalized Displ
Reactions
Spring Forces
Joint Forces
Abs Displacement
Abs Velocity
Abs Acceleration
Rel Velocity
Rel Acceleration
Joint Resp Specs
Check/Uncheck All
Element Output
Frame Forces
AreaShell Forces
AreaShell Stresses
AreaPlane Stresses
AreaAsolid Stresses
Solid Stresses
Link Force/Def
PZone Force/Def
Frame Hinges
Elem Virtual Work
Objects & Elements
Check/Uncheck All
Structure Output
Section Cut Forces
Base Reactions
Modal Information
RS Modal Amps
NL Static Curves
Plot Func Traces
Energy Components
Buckling Factors
Check/Uncheck All
Output Options
Modes: All
NLStatic: Not Active
ModalHist: Not Active
Dynamic: Not Active
Buckling: Not Active
SteadyState: Not Active
PSD: Not Active
Combos: Envelopes
BaseReacLoc: Origin
Multi-step: Not Active
Modify Options
Output Selections
GenDispls: 0 of 0
JtForces: 0 of 2
SectCuts: 0 of 0
VirtWork: 0 of 0
NLStatic: 0 of 0
JtRSpec: 0 of 0
PFTrace: 0 of 0
Modify Selection
Output Sort Order
Elements, Cases
Cases, Elements
Table Formats File
Selection Only
Show Unformatted
Select Analysis Case
6 of 12 Selected
Check/Uncheck All
Save Named Set
Show Named Set
Current Table Formats File: Program Default
OK
Cancel
2 Lines Selected
Start Animation
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
8:33 AM

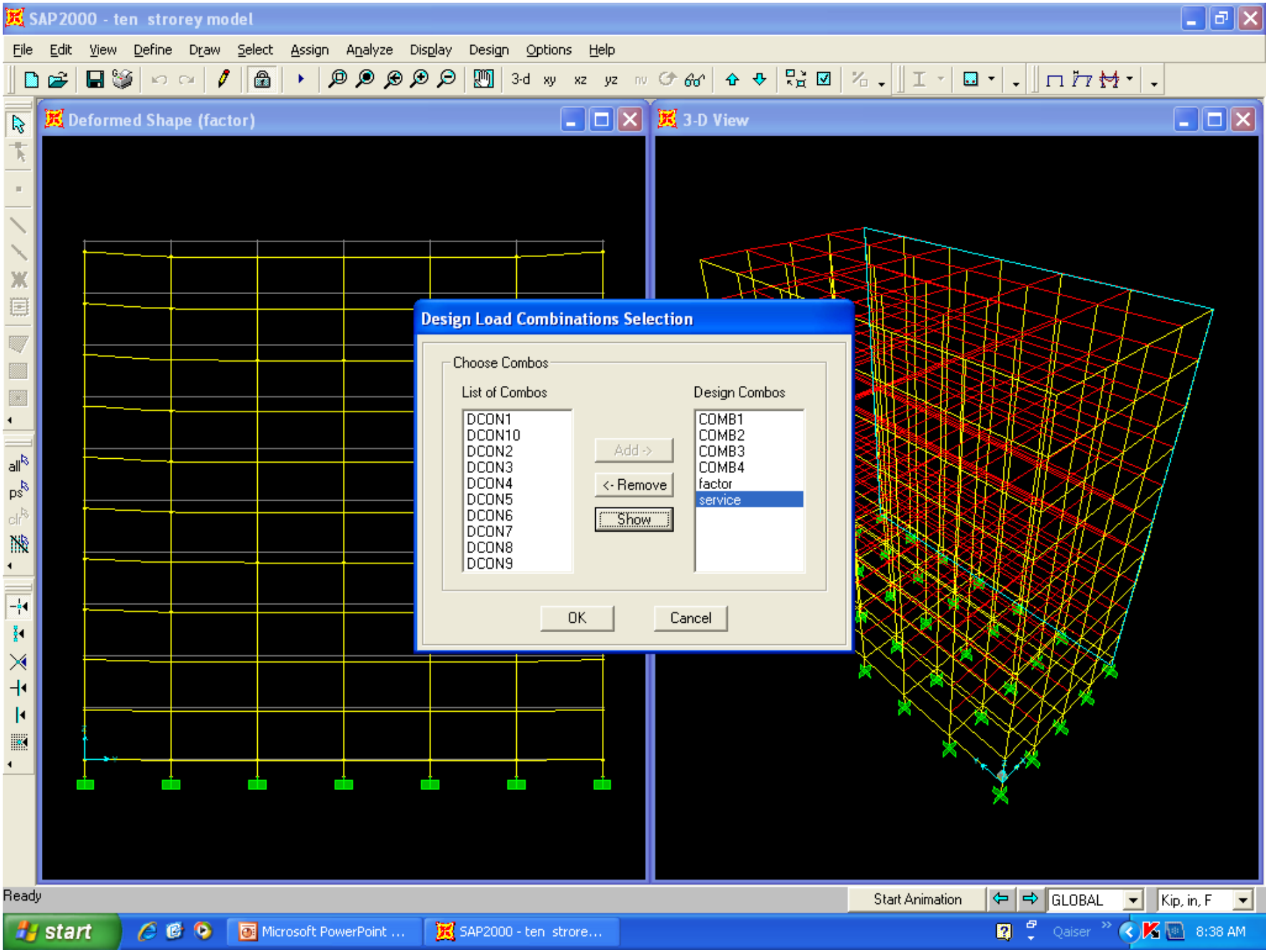

SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Deformed Shape (factor)
3-D View
Choose Analysis Results Tables
ANALYSIS RESULTS (1 of 9 Active Boxes Checked)
Joint Output
Displacements
Generalized Displ
Reactions
Spring Forces
Joint Forces
Abs Displacement
Abs Velocity
Abs Acceleration
Rel Velocity
Rel Acceleration
Joint Resp Specs
Check/Uncheck All
Element Output
Frame Forces
AreaShell Forces
Structure Output
Section Cut Forces
Base Reactions
Output Options
Modes: All
NLStatic: Not Active
Output Selections
GenDispls: 0 of 0
JtForces: 0 of 2
SectCuts: 0 of 0
VirtWork: 0 of 0
NLStatic: 0 of 0
JtRSpec: 0 of 0
PFTrace: 0 of 0
Modify Selection
Output Sort Order
Elements, Cases
Cases, Elements
Select Output Cases
Select
COMB1
COMB2
COMB3
COMB4
DEAD
EQX
EQY
factor
live
MODAL
service
OK
Cancel
Clear All
Table Formats File
Selection Only
Show Unformatted
Select Analysis Case
6 of 12 Selected
Check/Uncheck All
Save Named Set
Show Named Set
Current Table Formats File: Program Default
OK
Cancel
2 Lines Selected
Start Animation
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
8:34 AM


SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Deformed Shape (factor)
3-D View
Joint Displacements
File View Options Format
Units: As Noted
Joint Displacements
Joint Text | OutputCase Text | CaseType Text | U1 in | U2 in | U3 in | R1 Radians | R2 Radians | R3 Radians
40 | DEAD | LinStatic | 0.000206 | 0.00086 | -0.104961 | -0.000119 | 0.00012 | -0.0000001983
40 | factor | Combination | 0.000603 | 0.002395 | -0.289139 | -0.000249 | 0.000278 | -0.0000005174
41 | DEAD | LinStatic | 0.000181 | 0.000644 | -0.151727 | -0.000063 | 0.000172 |).00000007811
41 | factor | Combination | 0.000507 | 0.001807 | -0.427324 | -0.000196 | 0.000412 | 0.0000002147
42 | DEAD | LinStatic | 0.000169 | 0.000322 | -0.158882 | -0.000004877 | 0.000182 | 000000002965
42 | factor | Combination | 0.000466 | 0.000899 | -0.448052 | -0.000011 | 0.000437 |).00000003029
43 | DEAD | LinStatic | 0.000167 | -2.932E-16 | -0.159259 | -1.245E-18 | 0.000183 | 2.27E-18
43 | factor | Combination | 0.000458 | -7.583E-16 | -0.449067 | -3.723E-18 | 0.000439 | 6.431E-18
44 | DEAD | LinStatic | 0.000169 | -0.000322 | -0.158882 | 0.000004877 | 0.000182 | 000000002965
44 | factor | Combination | 0.000466 | -0.000899 | -0.448052 | 0.000011 | 0.000437 |).00000003029
45 | DEAD | LinStatic | 0.000181 | -0.000644 | -0.151727 | 0.000063 | 0.000172 |).00000007811
45 | factor | Combination | 0.000507 | -0.001807 | -0.427324 | 0.000196 | 0.000412 | -0.0000002147
46 | DEAD | LinStatic | 0.000206 | -0.00086 | -0.104961 | 0.000119 | 0.00012 | 0.0000001983
46 | factor | Combination | 0.000603 | -0.002395 | -0.289139 | 0.000249 | 0.000278 | 0.0000005174
47 | DEAD | LinStatic | 0.000132 | 0.000807 | -0.142802 | -0.00015 | 0.000076 |).00000007085
47 | factor | Combination | 0.000385 | 0.002239 | -0.401201 | -0.000326 | 0.000232 | -0.0000001994
48 | DEAD | LinStatic | 0.000128 | 0.000637 | -0.20828 | -0.000091 | 0.000123 |).00000001782
48 | factor | Combination | 0.00036 | 0.001777 | -0.58265 | -0.000264 | 0.000347 |).00000004494
49 | DEAD | LinStatic | 0.000121 | 0.000323 | -0.218183 | -0.00000565 | 0.000131 |).00000002344
49 | factor | Combination | 0.000335 | 0.000902 | -0.610037 | -0.000013 | 0.000367 | 0.0000000723
50 | DEAD | LinStatic | 0.000119 | 1.137E-16 | -0.218651 | -1.543E-18 | 0.000131 | 2.265E-18
Record: 1 of 840
Done
Ready
Start Animation
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:36 AM


SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Steel Frame Design
Concrete Frame Design
Aluminum Frame Design
Cold-Formed Steel Frame Design
Overwrite Frame Design Procedure...
Concrete Shell Design
Select Design Combos...
View/Revise Overwrites...
Start Design/Check of Structure
Interactive Concrete Frame Design
Display Design Info...
Change Design Section...
Reset Design Section to Last Analysis...
Verify Analysis vs Design Section...
Verify all Members Passed...
Reset All Concrete Overwrites...
Delete Concrete Design Results...
Deformed Shape (factor)
Ready
Start Animation
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:37 AM


SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Deformed Shape (factor)
3-D View
Design Load Combinations Selection
Choose Combos
List of Combos
COMB1
COMB2
COMB3
COMB4
DCON1
factor
service
Add ->
<- Remove
Show
Design Combos
DCON10
DCON2
DCON3
DCON4
DCON5
DCON6
DCON7
DCON8
DCON9
OK
Cancel
Ready
Start Animation
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
8:37 AM


SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Deformed Shape (factor)
3-D View
Design Load Combinations Selection
Choose Combos
List of Combos
COMB1
COMB2
COMB3
COMB4
DCON1
DCON10
DCON2
DCON3
DCON4
DCON5
Add ->
<- Remove
Show
Design Combos
OK
Cancel
Ready
Start Animation
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:37 AM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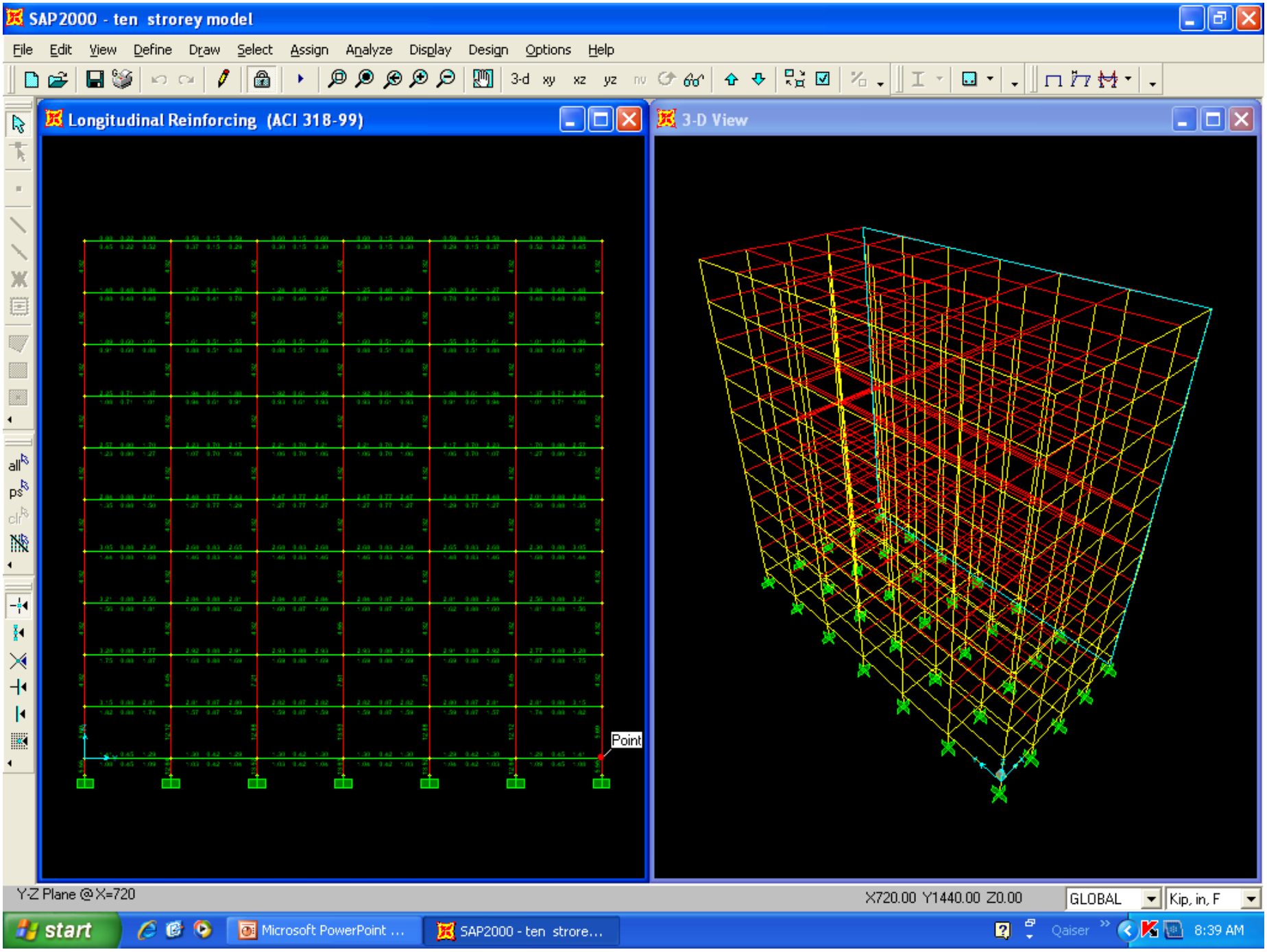
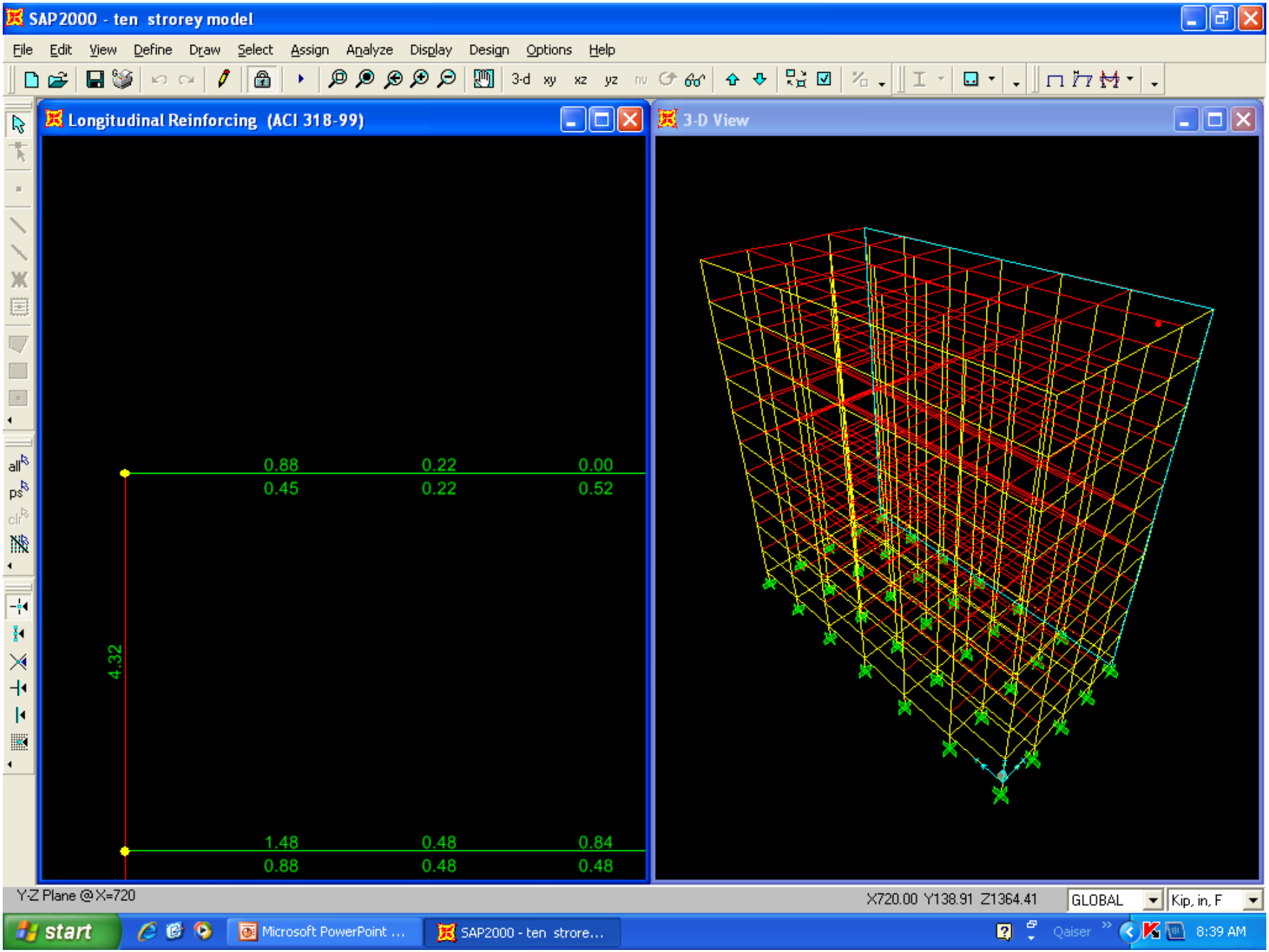
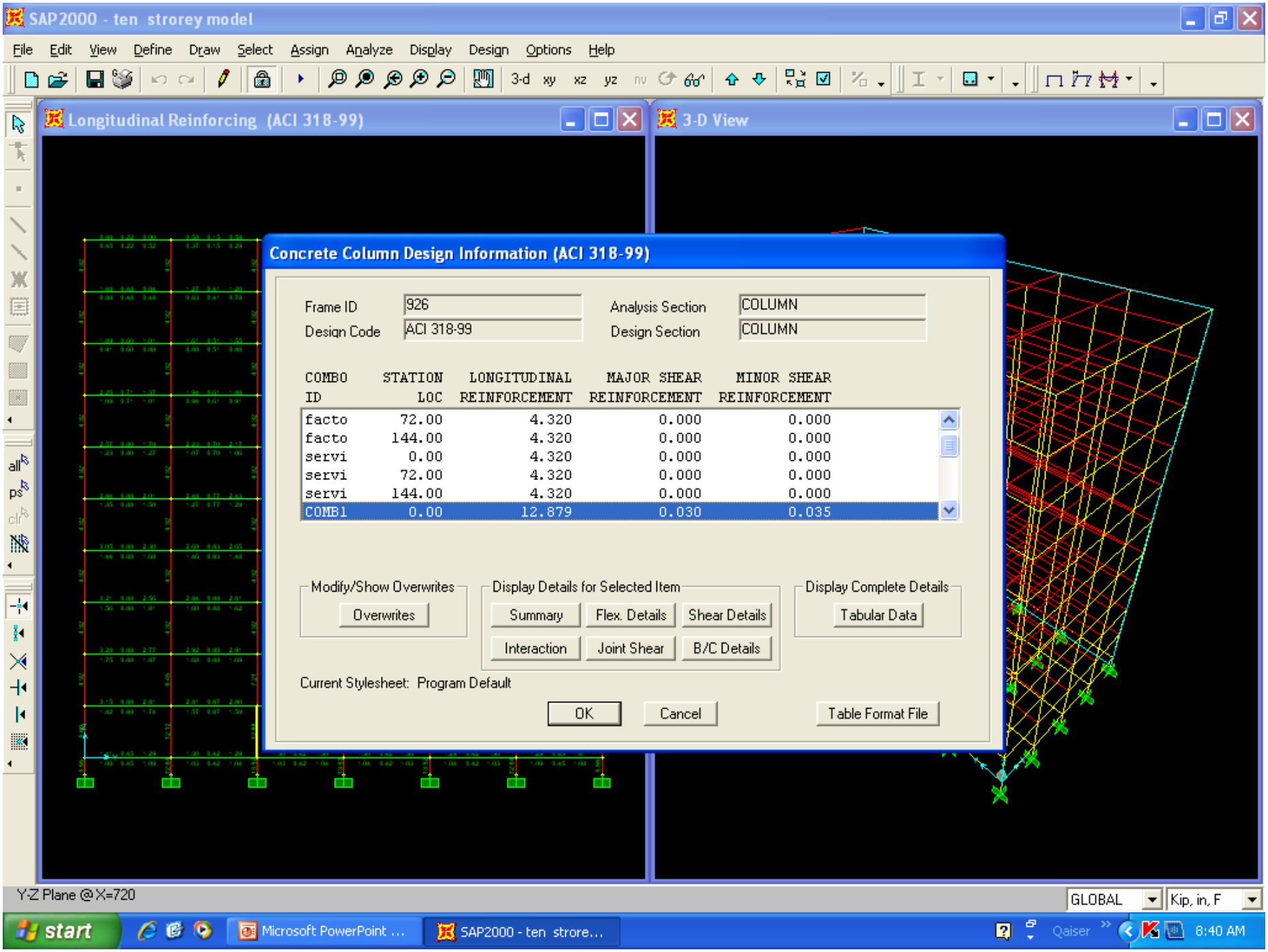
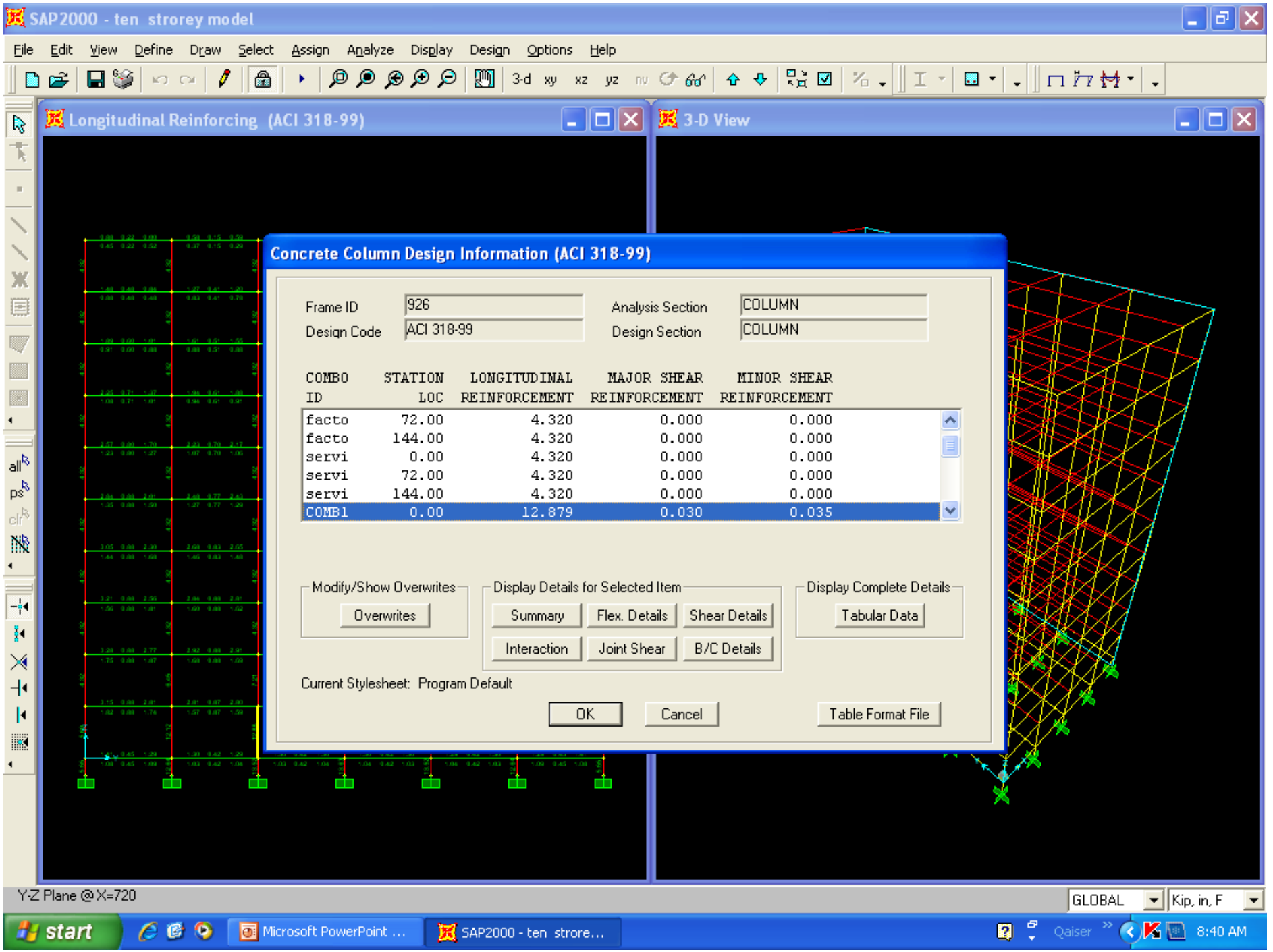
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Deformed Shape (factor)
3-D View
Design Load Combinations Selection
Choose Combos
List of Combos
DCON1
DCON10
DCON2
DCON3
DCON4
DCON5
DCON6
DCON7
DCON8
DCON9
Add ->
<- Remove
Show
Design Combos
COMB1
COMB2
COMB3
COMB4
factor
service
OK
Cancel
Ready
Start Animation
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:38 AM


SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
Longitudinal Reinforcing (ACI 318-99)
Point
3-D View
Y-Z Plane @X=720
X720.00 Y1440.00 Z0.00
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:39 AM


SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
3-d xy xz yz nv
Longitudinal Reinforcing (ACI 318-99)
0.88 0.22 0.00
0.45 0.22 0.52
4.32
1.48 0.48 0.84
0.88 0.48 0.48
3-D View
Y-Z Plane @X=720
X720.00 Y138.91 Z1364.41
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:39 AM


SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Longitudinal Reinforcing (ACI 318-99)
3-D View
Concrete Column Design Information (ACI 318-99)
Frame ID 926
Design Code ACI 318-99
Analysis Section COLUMN
Design Section COLUMN
COMBO ID | STATION LOC | LONGITUDINAL REINFORCEMENT | MAJOR SHEAR REINFORCEMENT | MINOR SHEAR REINFORCEMENT
facto 72.00 4.320 0.000 0.000
facto 144.00 4.320 0.000 0.000
servi 0.00 4.320 0.000 0.000
servi 72.00 4.320 0.000 0.000
servi 144.00 4.320 0.000 0.000
COMB1 0.00 12.879 0.030 0.035
Modify/Show Overwrites
Overwrites
Display Details for Selected Item
Summary
Flex. Details
Shear Details
Interaction
Joint Shear
B/C Details
Display Complete Details
Tabular Data
Current Stylesheet: Program Default
OK
Cancel
Table Format File
Y-Z Plane @X=720
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
8:40 AM


SAP2000 - ten strorey model
File Edit View Define Draw Select Assign Analyze Display Design Options Help
Longitudinal Reinforcing (ACI 318-99)
3-D View
Concrete Column Design Information (ACI 318-99)
Frame ID 926
Design Code ACI 318-99
Analysis Section COLUMN
Design Section COLUMN
COMBO ID | STATION LOC | LONGITUDINAL REINFORCEMENT | MAJOR SHEAR REINFORCEMENT | MINOR SHEAR REINFORCEMENT
facto 72.00 4.320 0.000 0.000
facto 144.00 4.320 0.000 0.000
servi 0.00 4.320 0.000 0.000
servi 72.00 4.320 0.000 0.000
servi 144.00 4.320 0.000 0.000
COMB1 0.00 12.879 0.030 0.035
Modify/Show Overwrites
Overwrites
Display Details for Selected Item
Summary
Flex. Details
Shear Details
Interaction
Joint Shear
B/C Details
Display Complete Details
Tabular Data
Current Stylesheet: Program Default
OK
Cancel
Table Format File
Y-Z Plane @X=720
GLOBAL
Kip, in, F
start
Microsoft PowerPoint ...
SAP2000 - ten strore...
Qaiser
8:40 AM

SAP2000 - ten strorey model

File Edit View Define Draw Select Assign Analyze Display Design Options Help

Concrete Design Information ACI 318-99

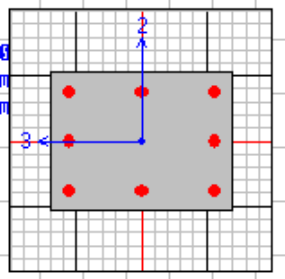
File

Units Kip, ft, F

ACI 318-99 COLUMN SECTION DESIGN Type: Sway Special Units: Kip, ft, F (Summary)

L=12.000
Element : 926 B=2.000 D=1.500 dc=0.208
Station Loc : 0.000 E=518400.000 fc=576.000 Lt.Wt. Fac.=1.000
Section ID : COLUMN fy=8640.000 fys=5760.000 As=0.089 (Determ
Combo ID : COMB1 RLLF=1.000 EQF=1.000 As=2.981% (Determ

Phi(Compression-Spiral): 0.750 Overstrength Factor: 1.25
Phi(Compression-Tied): 0.700
Phi(Tension): 0.900
Phi(Bending): 0.900
Phi(Shear): 0.850



AXIAL FORCE & BIAXIAL MOMENT DESIGN FOR PU, M2, M3

Rebar Area	Design Pu	Design M2	Design M3	Minimum M2	Minimum M3
0.089	1028.315	-113.115	222.284	113.115	97.690

AXIAL FORCE & BIAXIAL MOMENT FACTORS

	Cm Factor	Delta_ns Factor	Delta_s Factor	K Factor	L Length
Major Bending(M3)	0.400	1.000	1.000	1.000	12.000
Minor Bending(M2)	0.400	1.000	1.000	1.000	12.000

SHEAR DESIGN FOR V2,V3

	Design Rebar	Shear Vu	Shear phi*Vc	Shear phi*Vs	Shear Vp
Major Shear(V2)	0.003	80.180	87.600	15.810	80.180
Minor Shear(V3)	0.003	116.597	91.132	25.465	116.597

JOINT SHEAR DESIGN

	Joint Shear Ratio	Shear VuTop	Shear VuTot	Shear phi*Vc	Joint Area
Major Shear(V2)	N/A	N/A	N/A	N/A	N/A
Minor Shear(V3)	N/A	N/A	N/A	N/A	N/A

Y-Z Plane @X=720

GLOBAL Kip, in, F

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SAP2000 - ten strorey model

File Edit View Define Draw Select Assign Analyze Display Design Options Help

Concrete Design Information ACI 318-99

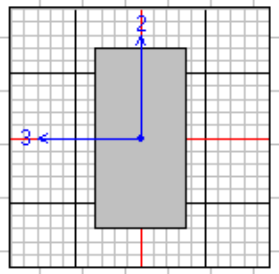
File

Units Kip, in, F

ACI 318-99 BEAM SECTION DESIGN Type: Sway Special Units: Kip, in, F (Summary)

L=240.000

Element	: 114	D=24.000	B=12.000	bf=12.000
Station Loc	: 240.000	ds=0.000	dct=2.000	dcb=2.000
Section ID	: BEAM1	E=3600.000	fc=4.000	Lt.Wt. Fac.=1.000
Combo ID	: COMB3	fy=60.000	fys=40.000	



Phi(Bending): 0.900
Phi(Shear): 0.850
Phi(Torsion): 0.850

Design Moments, M3

	Positive Moment	Negative Moment	Special +Moment	Special -Moment
	697.601	-1395.202	697.601	-1395.202

Flexural Reinforcement for Moment, M3

	Required Rebar	+Moment Rebar	-Moment Rebar	Minimum Rebar
Top (+2 Axis)	1.225	0.000	1.225	0.880
Bottom (-2 Axis)	0.799	0.599	0.000	0.799

Shear Reinforcement for Shear, V2

Design Rebar	Shear Vu	Shear phi*Vc	Shear phi*Vs	Shear Vp
0.015	28.904	28.385	11.220	13.273

Reinforcement for Torsion, T

Rebar At	Rebar Al	Torsion Tu	Critical Phi*Tcr	Area Ao	Perimeter Ph
0.000	0.000	0.049	61.930	148.113	58.000

Y-Z Plane @X=180

GLOBAL Kip, in, F

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