

## Problems with Muller Method.

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Two main problems may arise while implementing the Muller method.

1. First problem is the fact that the three points used for interpolating the function may have the same function values, (that is  $f(x_0) = f(x_1) = f(x_2)$ ). when this condition is applied, it can easily be seen that the Muller Algorithm fails.

To avoid this failure, at each step, values  $f(x_0)$ ,  $f(x_1)$  and  $f(x_2)$  must be checked.

2. Second problem arises when the points  $(x_0, f(x_0))$ ,  $(x_1, f(x_1))$  and  $(x_2, f(x_2))$  are on the same line, when it happens, the algorithm jumps to secant method.

