f(x)

Secant Method

INPUT   initial approximation p0, p1; tolerance TOL; maximum number of iterations N0.

OUTPUT   approximate solution p or message of failure.

STEP1   Set i = 2;

            q0 = f(p0);

            q1 = f(p1);

STEP2   While i ≤ N0 do STEPs 3-6

       STEP3   Set p = p1 −q1(p1-p0)/(q1-q0).

       STEP4   If |p-p1| < TOL then

               OUTPUT (p);

               STOP.

       STEP5   Set i = i + 1.

       STEP6   Set p0 = p1;

               q0 = q1;

               p1 = p;

               q1 = f(p).

STEP7   OUTPUT('The method failed');

        STOP.