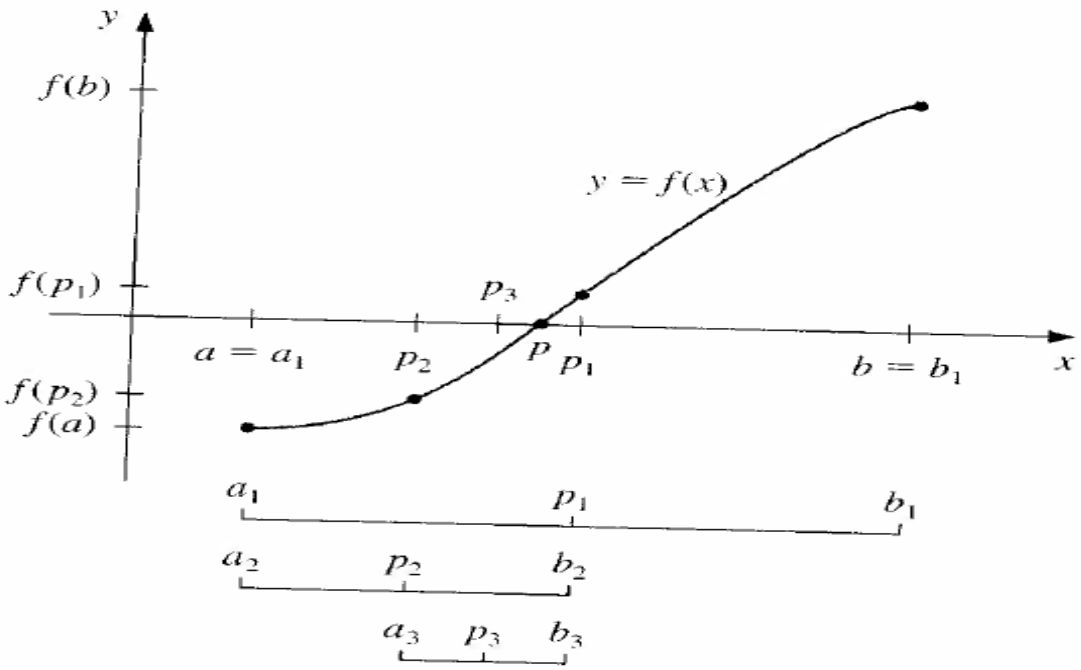

Bisection method

INPUT **a,b**; tolerance **TOL**; maximum number of iterations **N0**.
OUTPUT solution p or message of failure.
STEP1 Set i = 1;
FA = f(**a**);
STEP2 While i ≤ **N0** do STEPs 3-6.
STEP3 Set **p = a + (b-a)/2**; // a good way of computing middle point
FP = f(**p**).
STEP4 IF FP = 0 or (**b-a**) < TOL then
OUTPUT (**p**);
STOP.
STEP5 Set i = i +1.
STEP6 If FP·FA > 0 then
Set **a** = p;
FA = FP.
else
set **b** = p;
STEP7 OUTPUT("Method failed after N0 iterations");
STOP.