

```

> restart;
> bisection := proc( )
  local a, b, f, m, c, N, t;
  printf(" Please enter function f.\n" );
  f := scanf( '%a' ) [1];
  f := unapply( f, x );
  printf(" Please give the numbers a and b.\n" );
  a := scanf( '%f' ) [1];
  b := scanf( '%f' ) [1];
  printf(" Please give the tolerance.\n" );
  t := scanf( '%f' ) [1];
  printf(" Please give the maximom number of iteration.\n" );
  N := scanf( '%f' ) [1];
  c := 1;
  while c < N or b - a > t do
    m := (a + b) / 2.;
    if f(m) * f(a) < 0 then
      b := m;
    else a := m;
    fi;
    c := c + 1;
  od;
  print(m);
  RETURN( );
end;
> bisection( );
Please enter function f .
Please give the numbers a and b.
Please give the tolerance.
Please give the maximom number of iteration.
-0.8421756420 (1)
> fsolve(x^5 - 2 * x^2 - x + 1 = 0, x);
-0.8421756417, 0.5115918738, 1.295883014 (2)
> bisection( );
Please enter function f .
Please give the numbers a and b.
Please give the tolerance.
Please give the maximom number of iteration.
1.934563212 (3)
> fsolve(sin(x) - x + 1 = 0, x);
1.934563211 (4)
>
>
>
>

```