

% Name = Mokshada Toke

Roll No = 72

Div = TY-B

f = input('enter function y = f(x) = ');

x1 = input('enter 1st initial guess x1 = ');

x2 = input('enter 2nd initial guess x2 = ');

n = input('enter no of iterations n = ');

y1 = f(x1);

y2 = f(x2);

while (y1*y2 > 0)

 x1 = input('enter 1st initial guess again x1 = ');

 x2 = input('enter 2nd initial guess again x2 = ');

 y1 = f(x1);

 y2 = f(x2);

end

for i = 1:n

 x3 = (x1 + x2)/2;

 y3 = f(x3);

 if (y1 * y3 < 0)

 x2 = x3;

 y2 = y3;

 else

 x1 = x3;

 y1 = y3;

 end

end

fprintf('\n The root of equation is = %f', x3);

%OUTPUT

>> bisection_72_ty

enter function $y = f(x) =$

@(x) (2*x*x*x) + (4*x*x) - 8

enter 1st initial guess $x_1 =$

1

enter 2nd initial guess $x_2 =$

1.5

enter no of iterations $n =$

3

The root of equation is = 1.187500

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