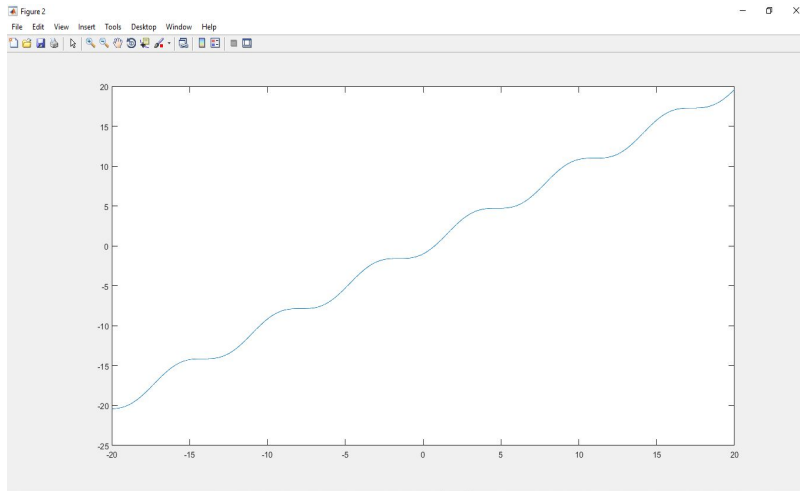


For Non-Polynomials

1) $f(x)=x-\cos(x)$

Graph:

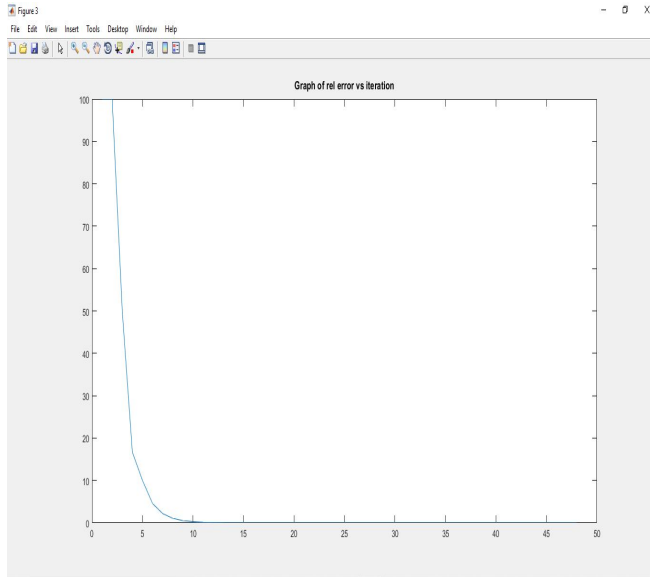


1. Bisection Method:-

Root=0.739074707031250

Flag=(i)

Relative_error vs iterations:-

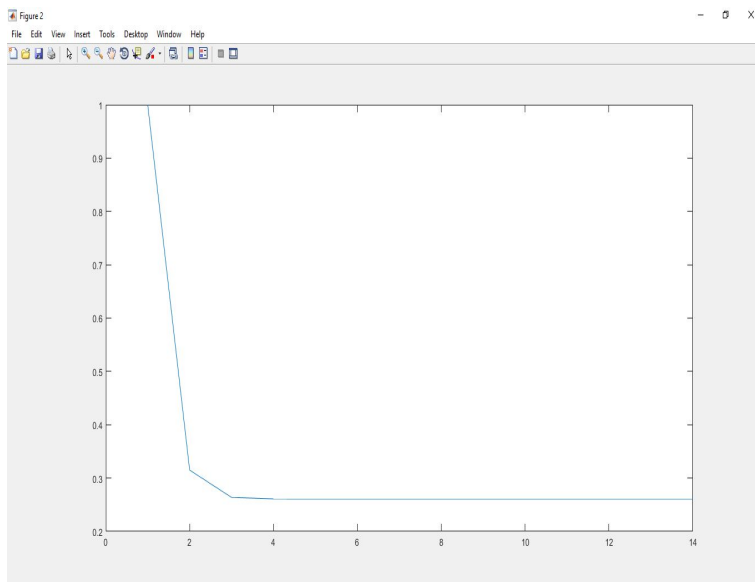


2. Method of False-position:-

Root=0.739085133215161

Flag=(i)

Relative error vs iterations:-

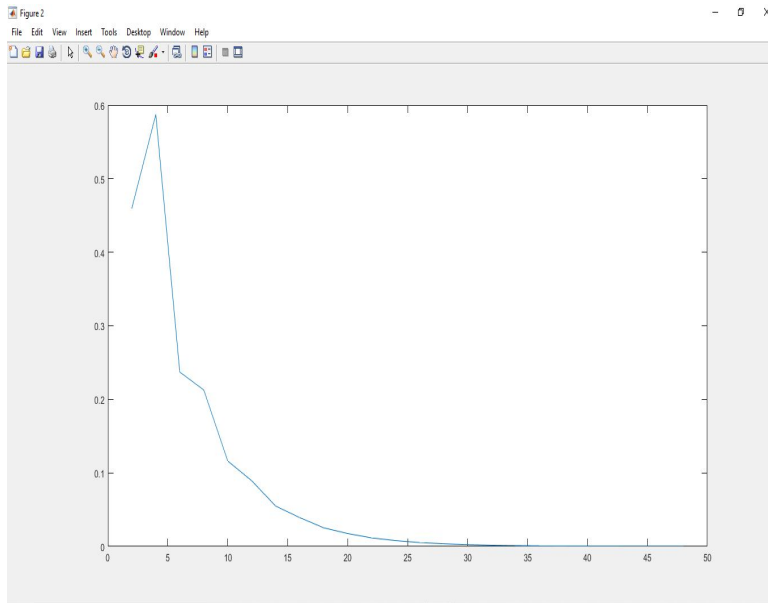


3. Fixed-Point:-

Root=0.739054790746917

Flag=(i)

Relative error vs iterations:-

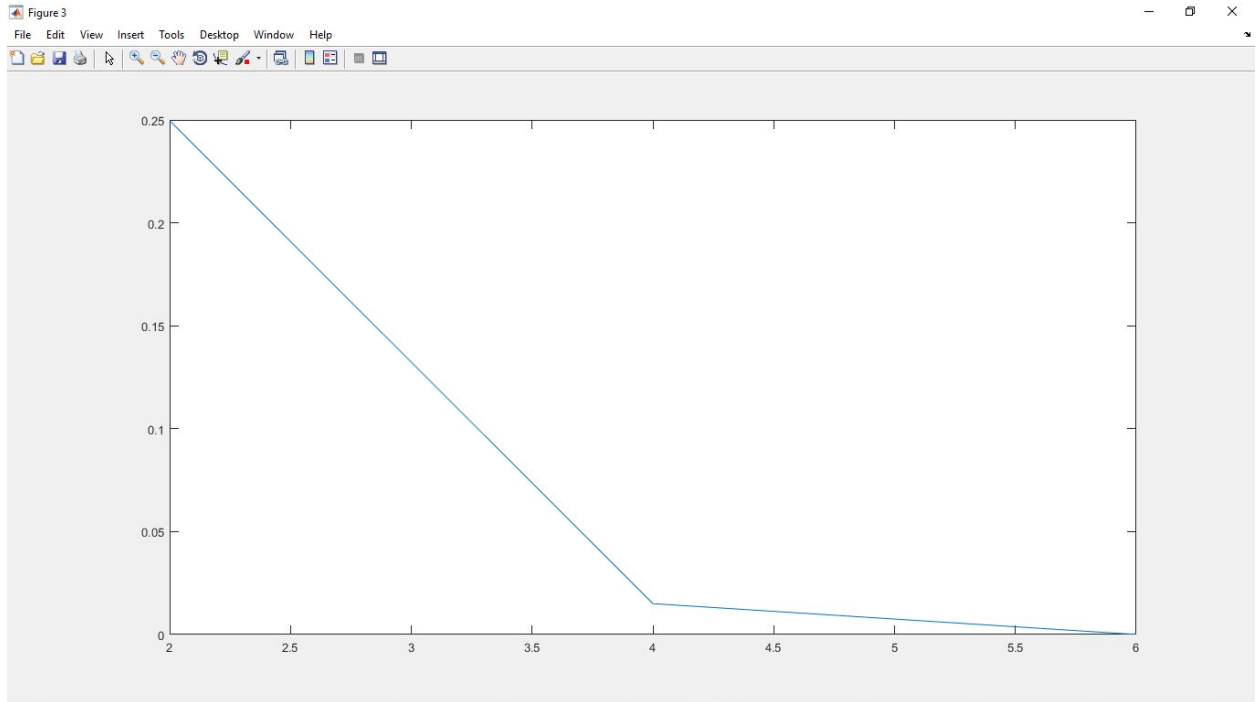


4. Newton-Raphson:-

Root=0.739112890911362

Flag=(i)

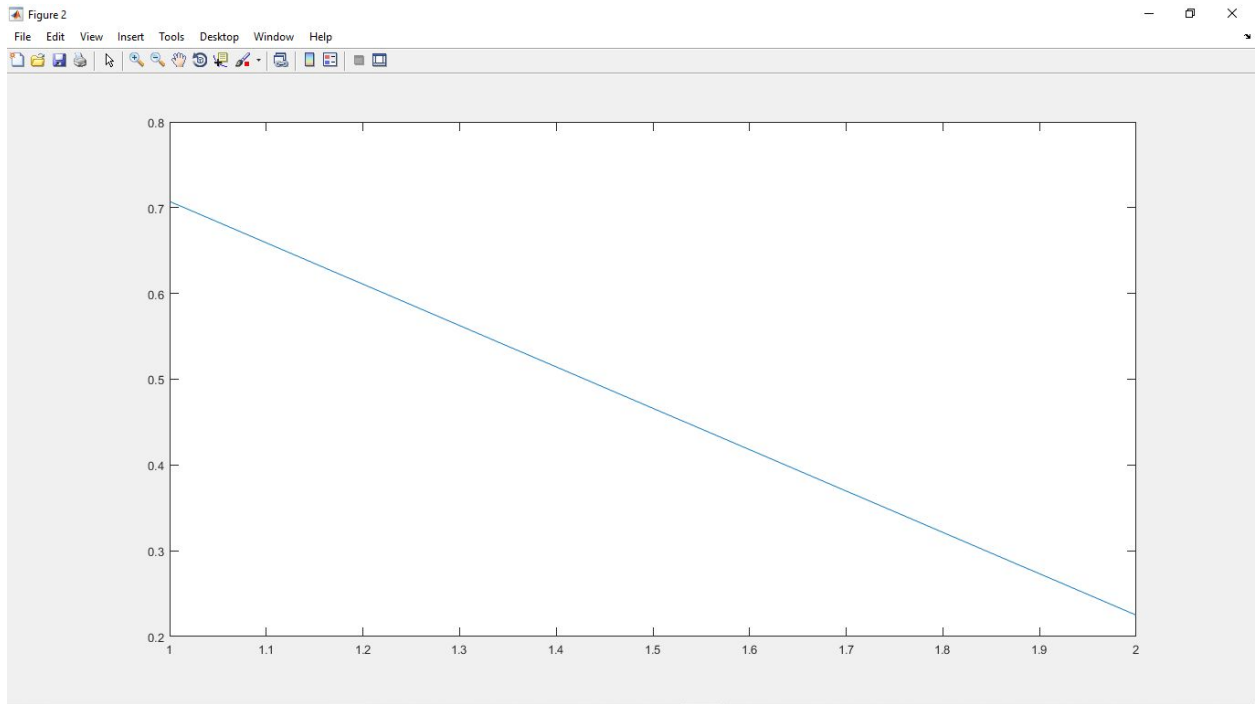
Relative error vs iterations:-



5. Secant Method:-

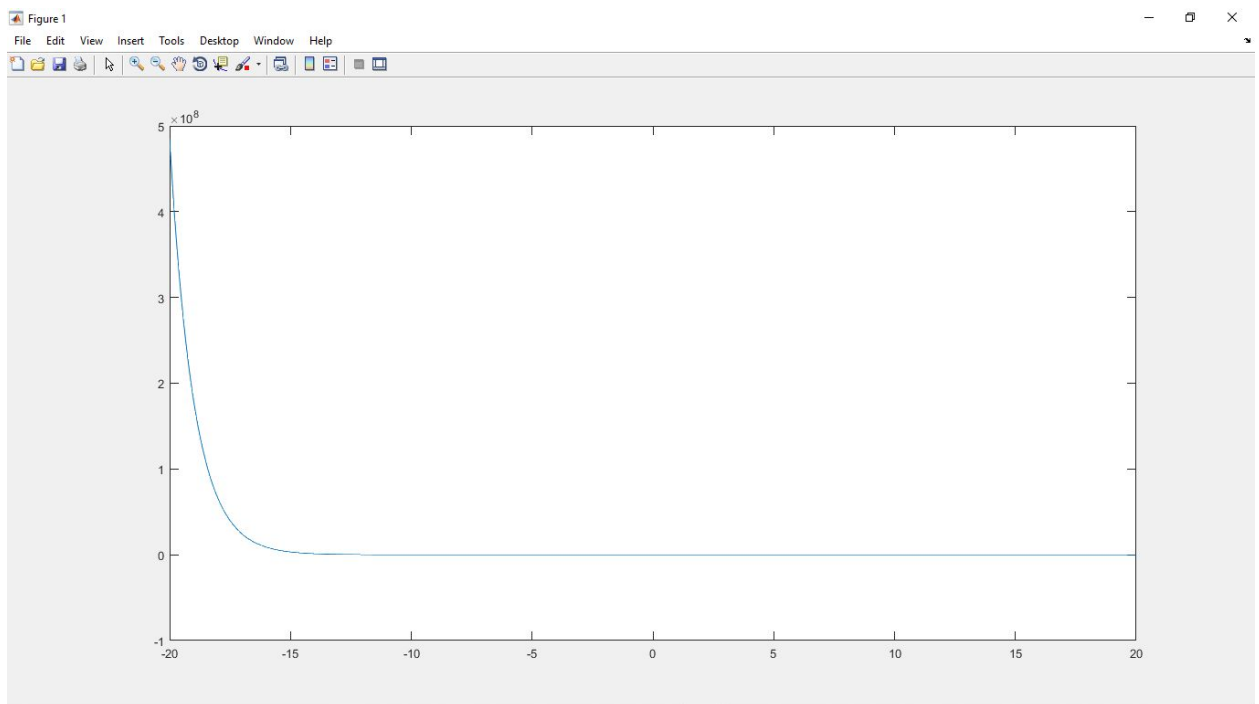
Root= 0.739900765490124

Flag=(i)



2) $f(x) = \exp(-x) - x$

Graph:-

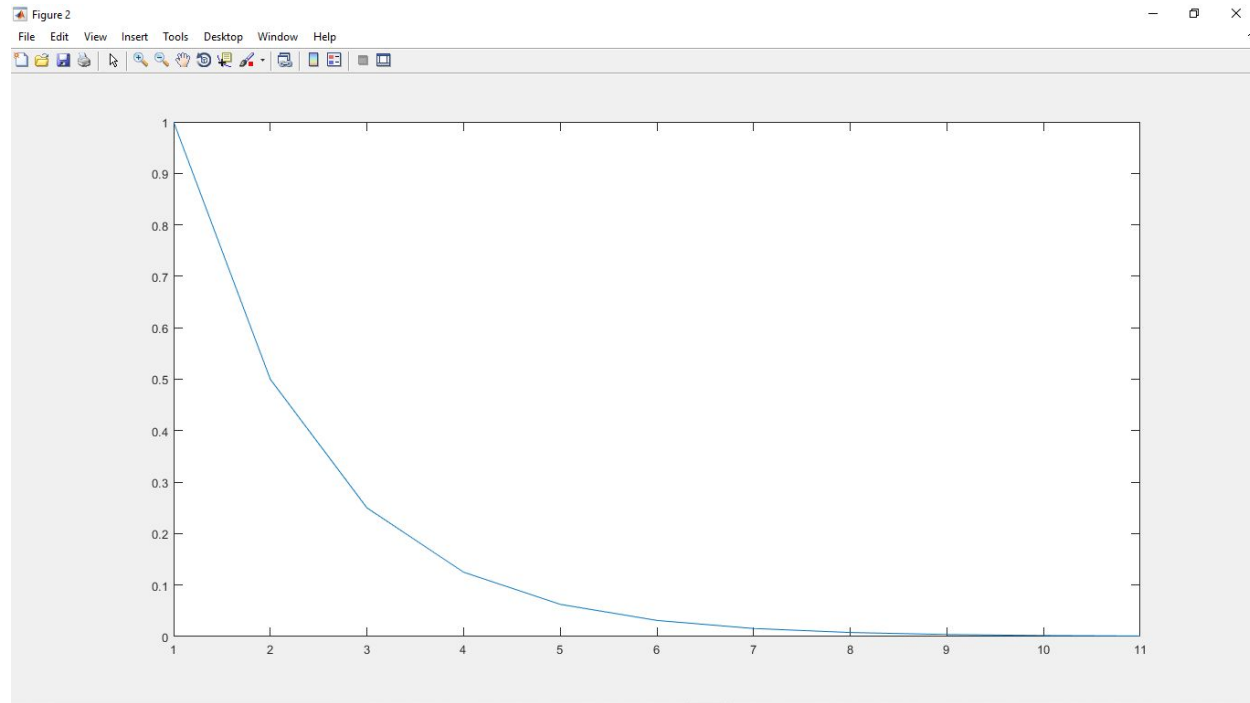


1. Bisection Method:-

Root=0.566894531250000

Flag=(i)

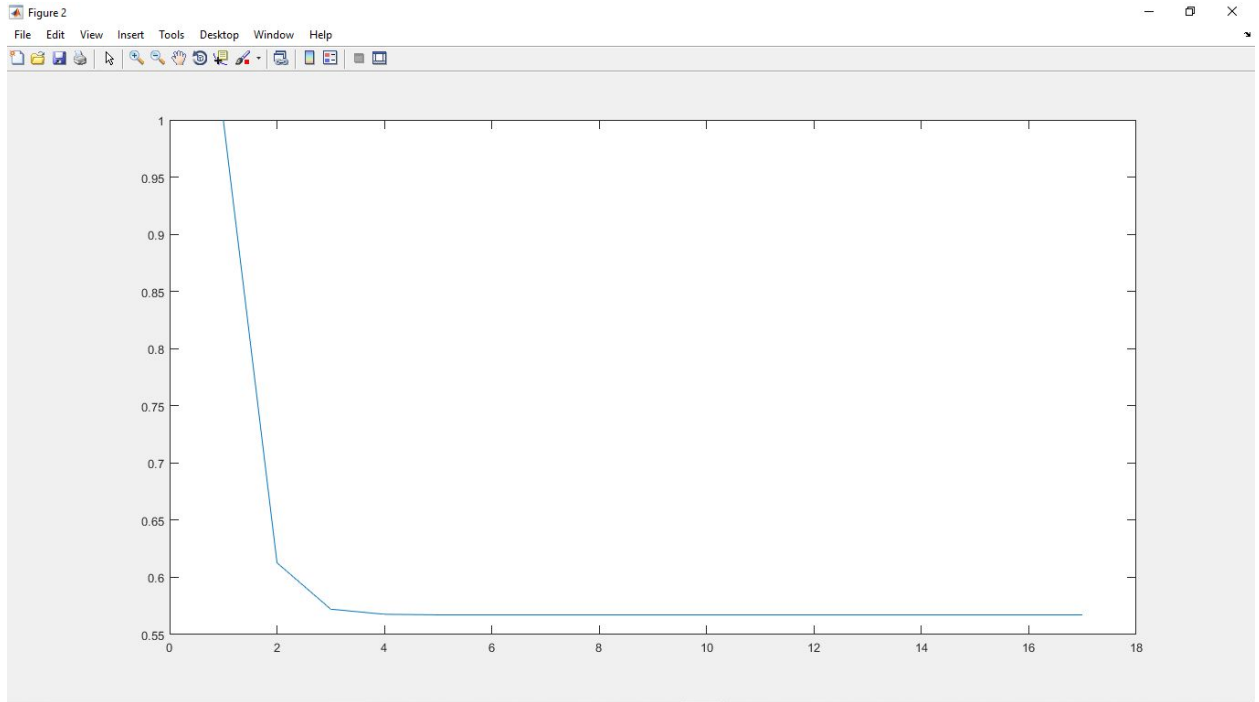
Relative error vs iterations:-



2. Method of False-Position:-

Root=0.567143290409784

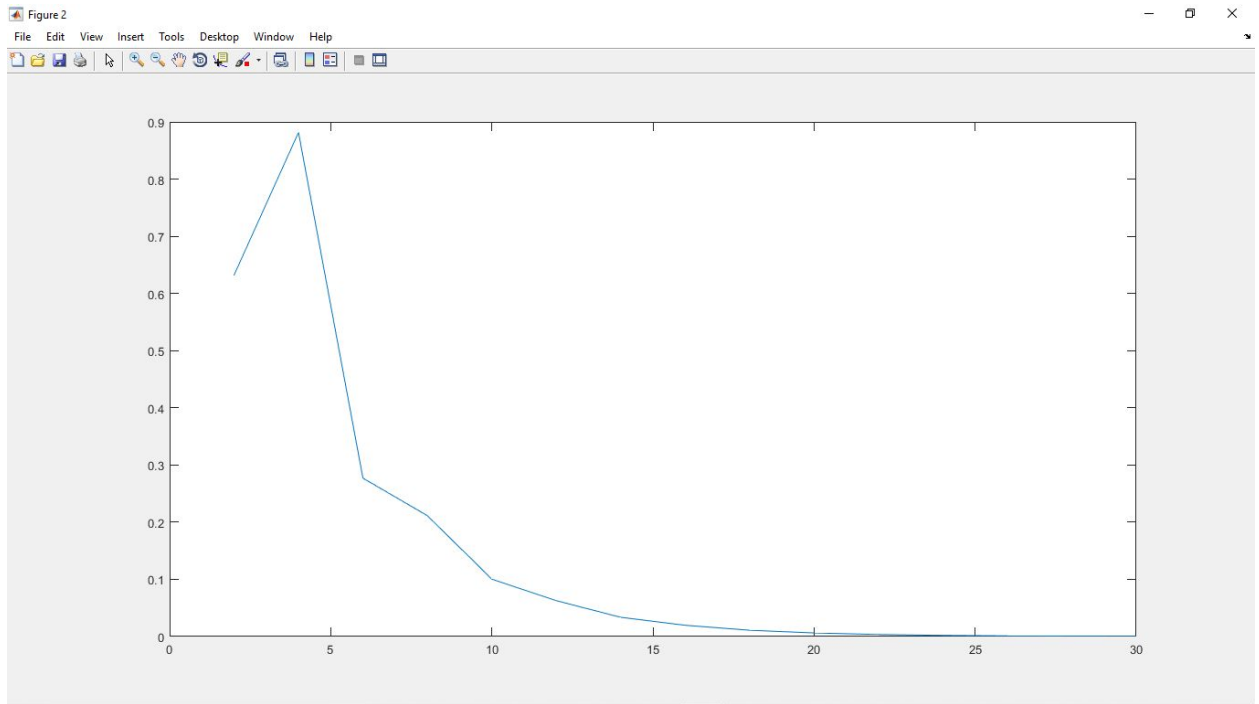
Flag-(i)



3. Fixed-Point:-

Root=0.567276232175570

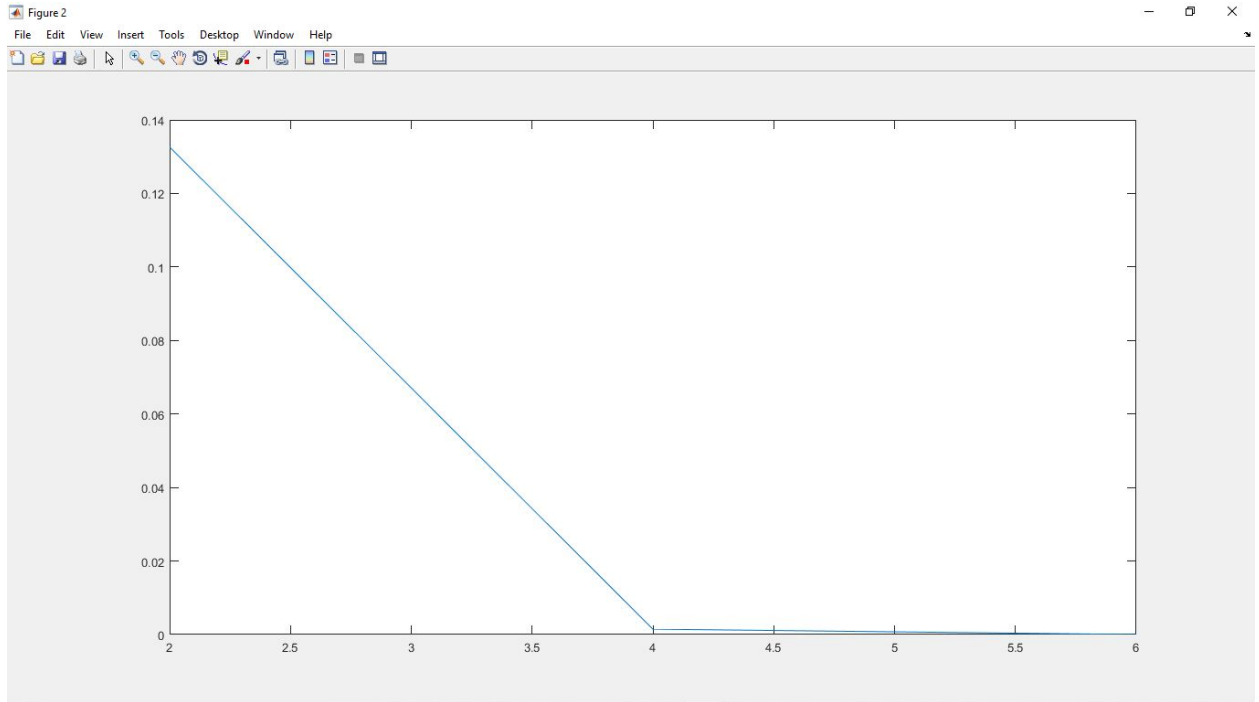
Flag=(i)



4. Newton Raphson:-

Root=0.567143165034862

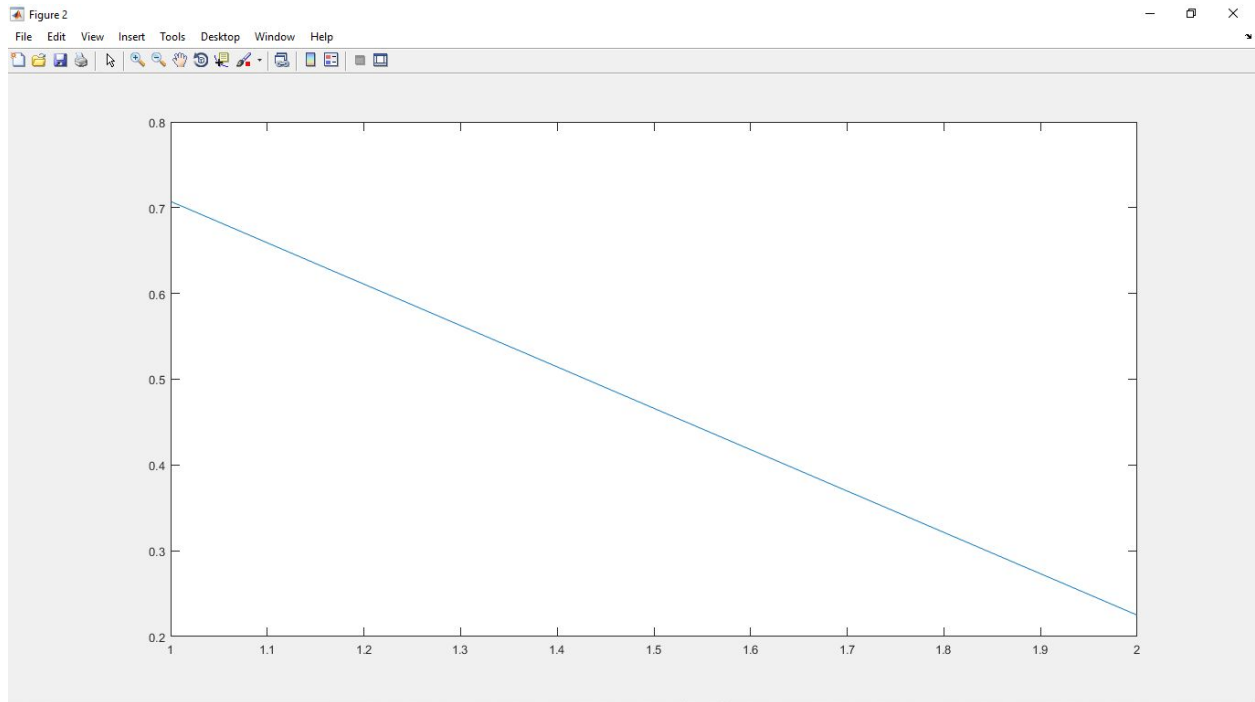
Flag=(i)



5. Secant Method:-

Root=0.541172433948397

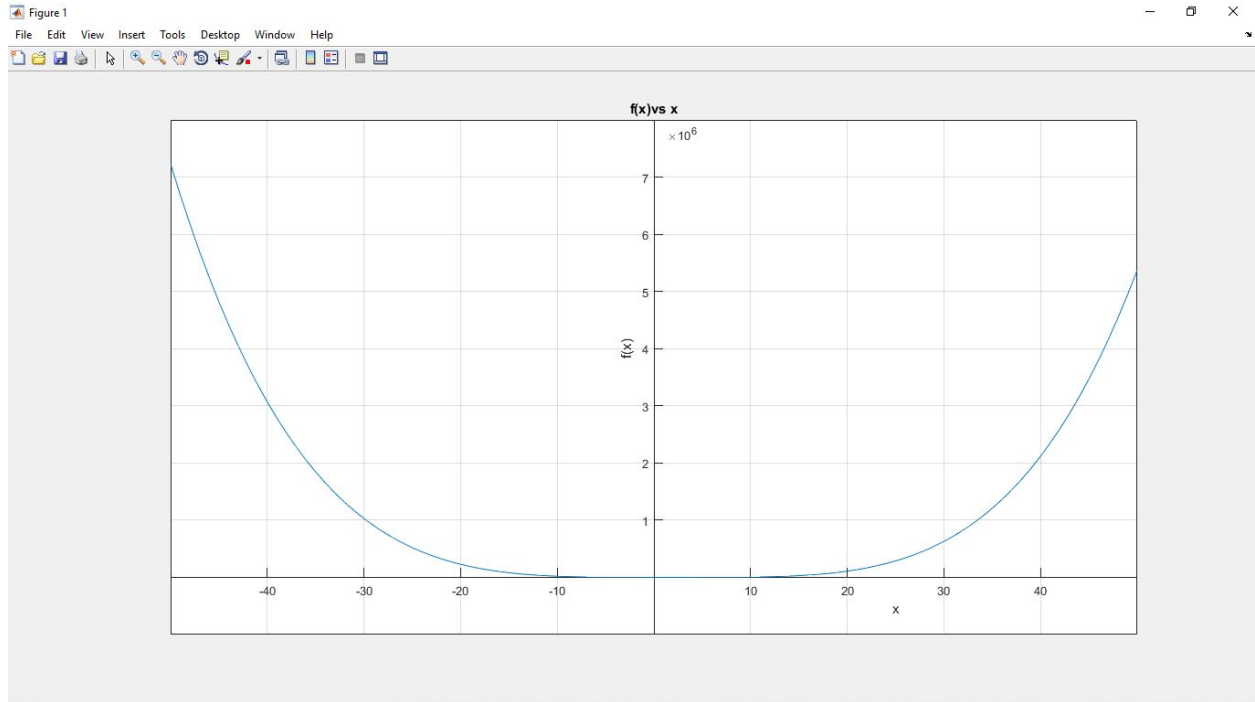
Flag=(iii)



For Polynomials:-

$$f(x) = x^4 - 7.4x^3 + 20.44x^2 - 24.184x + 9.6448$$

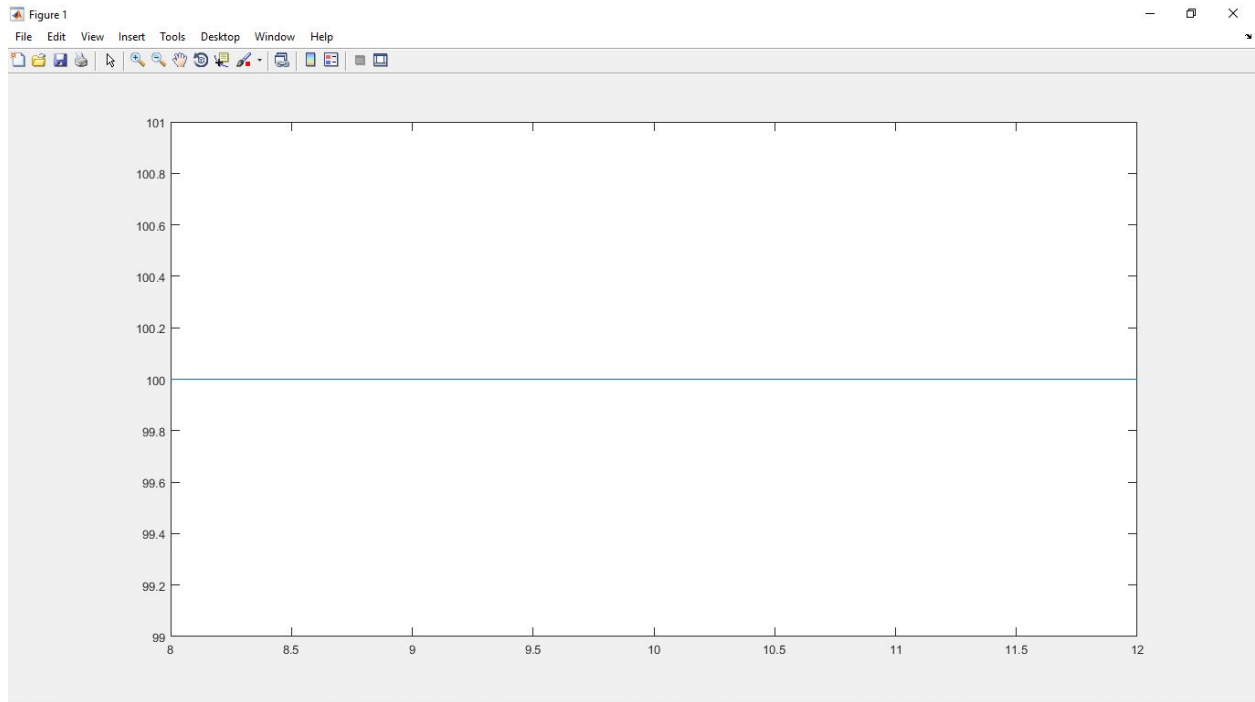
Graph:-



1. Muller:-

Root=0.800000001554482

Flag=(i)



2. Bairstrow:-

$s = -5, r = 4$

Root=2.200000 ,0.800000, 2.200000
,2.200000

$s = -2, r = 2$

Root=2.200000 0.800000 2.199954
2.199954

Flag=(i)

Roots got calculated in only one iteration so graph is just a point.