```
#Function Definition
import math
func=input('Enter given function: ')
def f(x):
    y=eval(func)
    return(y)
# Main Program
# Input Section
a=float(input('Enter initial value of a:'))
b=float(input('Enter initial value of b:'))
n=int(input('Enter no of iterations n:'))
# Process and output section
if f(a)*f(b)<0:
    print('root lies in the interval [a, b]=',a,b)
    print('The iterative values of root c is')
    for k in range(0,n):
        c=(a+b)/2;
        if f(a)*f(c)<0:
            b=c;
        else:
            a=c;
        print("c= %.4f"%c)
elif f(a) * f(b)== 0:
     print('root is anyone outof initial guess')
else:
    print('No lies in the interval [a, b]=',a,b)
```

Result:

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Enter given function: math.cos(x)-x*math.exp(x)

Enter initial value of a:0

Enter initial value of b:1

Enter no of iterations n:11

root lies in the interval [a, b]= 0.0 1.0

The iterative values of root c is

c= 0.5000

c= 0.7500

c= 0.6250

c= 0.5625

c= 0.5312

c= 0.5156

c= 0.5234

c= 0.5195

c= 0.5176

c= 0.5186

c= 0.5181