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Experment no 1:

Group 4 : Example 2 (Intermediated value theorem)

#start

#function derfination

import math

def f(x):

y=2\*x-(math.log(x,10))-7

return y

# Main program

# Input Section

a=float(input('Enter initial value of a:'))

b=float(input('Enter initial value of b:'))

# Process and output Section

print(' f(a)=' ,a)

print(' f(b)=' ,b)

if f(a)\*f(b)<0:

print('root lies in the interval [a, b]=' ,a,b)

elif f(a)\*f(b)==0:

print('any one initial value may the root')

else:

print('No lies in the interval [a, b]=' ,a,b)

Output Section:

1) In Interval (1,2):

Enter initial value of a:1

Enter initial value of b:2

f(a)= 1.0

f(b)= 2.0

No lies in the interval [a, b]= 1.0 2.0

2) In Interval (3,4):

Enter initial value of a:3

Enter initial value of b:4

f(a)= 3.0

f(b)= 4.0

root lies in the interval [a, b]= 3.0 4.0

3) In interval (5,6):

Enter initial value of a:5

Enter initial value of b:6

f(a)= 5.0

f(b)= 6.0

No lies in the interval [a, b]= 5.0 6.0