Engineering 102-518
Lab and Assignment #1b

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```
 1 C:\Users\abdul\Anaconda3\python.exe "D:/School/Engr 102
   Lab Assigments/Lab 1B/Program 1.py"
 2 Name: Abdullah Ahmad UIN: 927009064 Section: 518
 3 I was born in Pakistan
 4 100
 5 22050.0
 6 208.33333333333334
 7 1328231.52
 8 2.4242424242424243
 9 0.5714285714285714
10 16.004150764194193
11 22.024312837042164
12
13 Process finished with exit code 0
14
```

```
 1 C:\Users\abdul\Anaconda3\python.exe "D:/School/Engr 102
   Lab Assigments/Lab 1B/Program 2.py"
 2 This shows the evaluation of a sin(x)/(x) evaluated from 1
    to 10^-7
 3 my guess is around .9
 4 0.8414709848078965
 5 0.9983341664682815
 6 0.9999833334166665
 7 0.9999998333333416
 8 0.9999999983333334
 9 0.9999999999833332
10 0.9999999999998334
11 0.9999999999999983
12 This shows the evaluation of a 1-cos(x)/(x^2) evaluated
   from 1 to 10^-7
13 my guess is around .4
14 0.45969769413186023
15 0.49958347219741783
16 0.4999958333473664
17 0.49999995832550326
18 0.4999999969612645
19 0.5000000413701854
20 0.5000444502911705
21 0.4996003610813205
22 This shows the evaluation of a (1+1/x)^x evaluated from 1
   to 10^-7
23 my guess is around 2
24 2.0
25 1.2709816152101407
26 1.0472327459898225
27 1.0069326752808456
28 1.00092146832801
29 1.0001151359822877
30 1.0000138156069927
31 1.000001611810874
32
33 Process finished with exit code 0
34
```

```
 1 import math
 2 from math import *
 3
 4
 5 print ("Name: Abdullah Ahmad UIN: 927009064 Section: 518")
 6 print ("I was born in Pakistan")
 7 print (20 * 5) # OHMS LAW
 8 print (((100)*(21**2))/2) # KINETIC ENERGY
 9 print ((100*2.5)/1.2) # REYNOLDS NUMBER
10 print (5.67E-8*(2200**4)) # STEFAN-BOLTZMANN LAW
11 print (100/((1 + (.8 * 2 * 20 ))*(1/.8))) # ARPS EQUATION
12 print (20/35) # M/M/1 Q
13 print (2 + (20*(tan(math.radians(35))))) # Mohr-Coulom
   Failure Criterion
14 print (math.degrees(math.asin((7.5E-7)/(2 * 1E-6))))
```

```
 1 import math
 2 from math import *
 3
 4 # function 1
 5
 6 print ("This shows the evaluation of a sin(x)/(x)
   evaluated from 1 to 10^-7")
 7 print ("my guess is around .9 ")
 8 print (math.sin(1)/1)
 9 print (math.sin(.1)/.1)
10 print (math.sin(.01)/.01)
11 print (math.sin(.001)/.001)
12 print (math.sin(.0001)/.0001)
13 print (math.sin(.00001)/.00001)
14 print (math.sin(.000001)/.000001)
15 print (math.sin(.0000001)/.0000001)
16
17 # function 2
18 print ("This shows the evaluation of a 1-cos(x)/(x^2)
   evaluated from 1 to 10^-7")
19 print ("my guess is around .4 ")
20 print ((1-(math.cos(1))/1**2))
21 print ((1-(math.cos(.1)))/(.1**2))
22 print ((1-(math.cos(.01)))/(.01**2))
23 print ((1-(math.cos(.001)))/(.001**2))
24 print ((1-(math.cos(.0001)))/(.0001**2))
25 print ((1-(math.cos(.00001)))/(.00001**2))
26 print ((1-(math.cos(.000001)))/(.000001**2))
27 print ((1-(math.cos(.0000001)))/(.0000001**2))
28 # function 3
29 print ("This shows the evaluation of a (1+1/x)^x evaluated
    from 1 to 10^-7")
30 print ("my guess is around 2 ")
31 print ((1+(1/1))**1)
32 print ((1+(1/.1))**.1)
33 print ((1+(1/.01))**.01)
34 print ((1+(1/.001))**.001)
35 print ((1+(1/.0001))**.0001)
36 print ((1+(1/.00001))**.00001)
37 print ((1+(1/.000001))**.000001)
38 print ((1+(1/.0000001))**.0000001)
39
```