```
Python 2.7.11 |Anaconda 2.4.1 (64-bit)| (default, Dec  7 2015, 14:10:42) [MSC
v.1500 64 bit (AMD64)]
Type "copyright", "credits" or "license" for more information.

IPython 4.0.1 -- An enhanced Interactive Python.
?         -> Introduction and overview of IPython's features.
%quickref -> Quick reference.
help      -> Python's own help system.
object?   -> Details about 'object', use 'object??' for extra details.
%guiref   -> A brief reference about the graphical user interface.

In [1]: print'Solution by :\nMunesh Kumari \nM.Sc Tech. Mathematics\
Assignment soution'
Solution by :
Munesh Kumari
M.Sc Tech. Mathematics\ Assignment soution

In [2]:
   ...: def gas():
   ...:     print'Program for calculating value of gaussian Function'
   ...:     x=input('Enter the value of x : ')
   ...:     m=input('Enter the value of m : ')
   ...:     s=input('Enter the value of s : ')
   ...:     import math as k
   ...:     d=(((x-m)/s)**2)/2
   ...:     f=(1/k.sqrt(2*k.pi)*s)*(k.exp(d))
   ...:     print'Value of Gaussian function is ',(f)
   ...:

In [3]: gas()
Program for calculating value of gaussian Function

Enter the value of x : 1

Enter the value of m : 0

Enter the value of s : 2
Value of Gaussian function is  0.797884560803

In [4]: 12
Out[4]: 12

In [5]: gas()
Program for calculating value of gaussian Function

Enter the value of x : 34

Enter the value of m : 3
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Enter the value of s : 34
Value of Gaussian function is  13.5640375336

In [6]: gas()
Program for calculating value of gaussian Function

Enter the value of x : 51

Enter the value of m : 13

Enter the value of s : 21
Value of Gaussian function is  8.37778788843

In [7]: gas()
Program for calculating value of gaussian Function

Enter the value of x : 1

Enter the value of m : 9

Enter the value of s : 0
Traceback (most recent call last):

  File "<ipython-input-7-3544463ecb2e>", line 1, in <module>
    gas()

  File "<ipython-input-2-d8a046803e33>", line 8, in gas
    d=(((x-m)/s)**2)/2

ZeroDivisionError: integer division or modulo by zero


In [8]: gas()
Program for calculating value of gaussian Function

Enter the value of x : 0

Enter the value of m : 9

Enter the value of s : 1
Value of Gaussian function is  9.39051351249e+16

In [9]: gas()
Program for calculating value of gaussian Function

Enter the value of x : -1
```

```
Enter the value of m : 2

Enter the value of s : -2
Value of Gaussian function is  -0.797884560803

In [10]: print'As we know that s must be greater than zero, Now here checking
what happen when s is less than zero.'
As we know that s must be greater than zero, Now here checking what happen
when s is less than zero.

In [11]: gas()
Program for calculating value of gaussian Function

Enter the value of x : 1

Enter the value of m : 0

Enter the value of s : -4
Value of Gaussian function is  -1.59576912161

In [12]: gas()
Program for calculating value of gaussian Function

Enter the value of x : 0

Enter the value of m : 87436434

Enter the value of s : 2
Traceback (most recent call last):

  File "<ipython-input-12-3544463ecb2e>", line 1, in <module>
    gas()

  File "<ipython-input-2-d8a046803e33>", line 9, in gas
    f=(1/k.sqrt(2*k.pi)*s)*(k.exp(d))

OverflowError: math range error


In [13]: gas()
Program for calculating value of gaussian Function

Enter the value of x : 47364

Enter the value of m : 47364

Enter the value of s : 2
Value of Gaussian function is  0.797884560803
```

```
In [14]: gas()
Program for calculating value of gaussian Function

Enter the value of x : 623

Enter the value of m : 623

Enter the value of s : 2
Value of Gaussian function is  0.797884560803

In [15]: print'In above example In[13] and [14], Value doesnot change because
exp to power 0 will be 1'
In above example In[13] and [14], Value doesnot change because exp to power 0
will be 1

In [16]: def quad ():import math as m   print('Program for finding root of
Quadratic Equation \n') a=int(input('Enter the value of a '))
b=int(input('Enter the value of b '))   c=int(input('Enter the value of c '))
print('')   d=m.sqrt(b**2-4*a*c)    x=(-b+d)/(2*a)       #first root of quad.
eqn y=(-b-d)/(2*a)       #second root of Quad. equn print ('First root is',
(x) ,'\n and Second root is ',(y))
  File "<ipython-input-16-311507043f80>", line 1
    def quad ():import math as m    print('Program for finding root of
Quadratic Equation \n') a=int(input('Enter the value of a '))
b=int(input('Enter the value of b '))   c=int(input('Enter the value of c '))
print('')   d=m.sqrt(b**2-4*a*c)    x=(-b+d)/(2*a)       #first root of quad.
eqn y=(-b-d)/(2*a)       #second root of Quad. equn print ('First root is',
(x) ,'\n and Second root is ',(y))
                                          ^
SyntaxError: invalid syntax


In [17]: %clear


In [18]: runfile('C:/Users/Klkaprsd/Desktop/C Lab/Python/Assignment.py',
wdir='C:/Users/Klkaprsd/Desktop/C Lab/Python')
  File "C:/Users/Klkaprsd/Desktop/C Lab/Python/Assignment.py", line 12
    d=(((x-m)/s))**2)/2
                    ^
SyntaxError: invalid syntax


In [19]: runfile('C:/Users/Klkaprsd/Desktop/C Lab/Python/Assignment new.py',
wdir='C:/Users/Klkaprsd/Desktop/C Lab/Python')
  File "C:/Users/Klkaprsd/Desktop/C Lab/Python/Assignment new.py", line 12
    d=(((x-m)/s))**2)/2
```

```
                    ^
SyntaxError: invalid syntax


In [20]: runfile('C:/Users/Klkaprsd/Desktop/C Lab/Python/Assignment new.py',
wdir='C:/Users/Klkaprsd/Desktop/C Lab/Python')
Program for calculating value of gaussian Function

Enter the value of x : 1

Enter the value of m : 11

Enter the value of s : 1
Value of Gaussian function is  2.06839824678e+21
Thanks
 For More Details visit https://pkalika.wordpress.com/

In [21]: runfile('C:/Users/Klkaprsd/Desktop/C Lab/Python/Assignment new.py',
wdir='C:/Users/Klkaprsd/Desktop/C Lab/Python')
Program for calculating value of gaussian Function

Enter the value of x : 8643

Enter the value of m : 389576

Enter the value of s : 23856
Value of Gaussian function is  3.69999703075e+59
Thanks
For More Details visit https://pkalika.wordpress.com/

In [22]:
```