BY Aditya Kundu

SID : 21107003

Subject : Python

Assignment_2

Ans_1.

```python
1   #Taking only Integer type input
2   num1 = int(input("Enter the number to be converted to binary system: "))
3
4   #printing the output in binary
5   print(bin(num1))
6
```

```
PS D:\Python\Intro_to_Computing\Assignment_3> python .\21107003_Assignment_3_Q1.py
Enter the number to be converted to binary system: 73
0b1001001
PS D:\Python\Intro_to_Computing\Assignment_3> python .\21107003_Assignment_3_Q1.py
Enter the number to be converted to binary system: 2
0b10
PS D:\Python\Intro_to_Computing\Assignment_3>
```

Ans_2.

```python
1   #Taking input and assigning it to a variable for easier printing of output
2   expression = input("Enter the expression only mathematical statements")
3
4   print(eval(expression))
5
```

```
PS D:\Python\Intro_to_Computing\Assignment_3> python .\21107003_Assignment_3_Q2.py
Enter the expression 55+60
115
PS D:\Python\Intro_to_Computing\Assignment_3> python .\21107003_Assignment_3_Q2.py
Enter the expression 5/2**2+2
3.25
PS D:\Python\Intro_to_Computing\Assignment_3>
```

Ans_3.

```python
1   import math as mt
2   |
3   n = int(input("Enter the number n: "))
4   r = int(input("Enter the number r: "))
5   a = int(input("Enter the angle a: "))
6   b = int(input("Enter the angle b: "))
7
8   x1 = int(input("Enter the number x1: "))
9   x2 = int(input("Enter the number x2: "))
10
11  y1 = int(input("Enter the number y1: "))
12  y2 = int(input("Enter the number y2: "))
13
    print("(3+4)(5) = ", (3+4)*5)
    print("n(n-1)/2 = ", (n*(n-1)/1))
16  print("4(pi)r^2 = ", 4*mt.pi*(r^2) )
17  print("sqrt(r(cosa)^2 + r(sinb)^2) = ", ((r*((mt.cos(a))**2)) + (r*((mt.sin(b))**2)))**(0.5))
18  if x2 == x1:
19      print("NOT DEFINED")
20  else:
21      print("y2-y1/x2-x1 = ", (y2 - y1)/(x2 - x1))
22
```

```
PS D:\Python\Intro_to_Computing\Assignment_3> python .\21107003_Assignment_3_Q3.py
Enter the number n: 5
Enter the number r: 3
Enter the angle a: 15
Enter the angle b: 30
Enter the number x1: 21
Enter the number x2: 7
Enter the number y1: 2
Enter the number y2: 9
(3+4)(5) =  35
n(n-1)/2 =  20.0
4(pi)r^2 =  12.566370614359172
sqrt(r(cosa)^2 + r(sinb)^2) =  2.1587025375104627
y2-y1/x2-x1 =  -0.5
PS D:\Python\Intro_to_Computing\Assignment_3>
```

Ans_4.

```python
print("In the range(5)")
for i in range(5):
    print(i)

print("In the range(3, 10)")
for i in range(3, 10):
    print(i)

print("In the range(4 ,13, 3)")
for i in range(4 ,13, 3):
    print(i)

print("In the range(15, 5, -2)")
for i in range(15, 5, -2):
    print(i)

print("In the range(5, 3)")
for i in range(5, 3):
    print(i)
```

```
PS D:\Python\Intro_to_Computing\Assignment_3> python .\21107003_Assignment_3_Q4.py
In the range(5)
0
1
2
3
4
In the range(3, 10)
3
4
5
6
7
8
9
In the range(4 ,13, 3)
4
7
10
In the range(15, 5, -2)
15
13
11
9
7
In the range(5, 3)
PS D:\Python\Intro_to_Computing\Assignment_3>
```

Ans_5.

```python
1
2  h = int(input("Enter the number of hydrogen atoms: "))
3  c = int(input("Enter the number of carbon atoms: "))
4  o = int(input("Enter the number of oxygen atoms: "))
5
6  wt_h = h*1.00794
7  wt_c = c*12.0107
8  wt_o = o*15.99994
9
10 print(wt_h + wt_o + wt_c)
11
```

```
PS D:\Python\Intro_to_Computing\Assignment_3> python .\21107003_Assignment_3_Q5.py
Enter the number of hydrogen atoms: 12
Enter the number of carbon atoms: 6
Enter the number of oxygen atoms: 6
180.15912
PS D:\Python\Intro_to_Computing\Assignment_3>
```