Assignment – 5

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1. **Python program to find area of a circle using math function**

```
import math
def area_of_circle(r):
    a = r**2 * math.pi
    return a
r = float(input("Enter the radius of the circle: "))
print("%.2f" %area_of_circle(r))
```

Output:-

```
 Enter the radius of the circle: 3
28.27
```

2. **Program to find area of rectangular polygon**

```
from math import tan, pi
n_sides = int(input("Input number of sides: "))
s_length = float(input("Input the length of a side: "))
p_area = n_sides * (s_length ** 2) / (4 * tan(pi / n_sides))
print("The area of the polygon is: ",p_area)
```

Output:- Input number of sides: 4
Input the length of a side: 20
The area of the polygon is: 400.00000000000006

3. **Program to generate random numbers between 1 to 1000**

```
import random
def Rand(start, end, num):
    res = []
    for j in range(num):
        res.append(random.randint(start, end))
    return res
num = 50
start = 1
end = 1000
print(Rand(start, end, num))
```

Output:- [118, 763, 406, 393, 144, 486, 984, 201, 421, 166, 477, 71, 228, 867, 799, 686, 131, 134, 983, 105, 39, 911, 522, 850, 287, 74, 668, 585, 958, 639, 273, 938, 877, 974, 506, 973, 158, 402, 644, 708, 954, 673, 116, 958, 247, 380, 615, 55, 855, 188]

4. **By using math module ,write a python program to find**
   sin(60°)
   cos(pi)
   tan(90°)
   5^8
   squareroot 400
   floor and ceiling value of 23.56

```
import math
print("The value of sin(60°) :",str(math.sin(math.radians(60))))
print("The value of cos(pi) :",str(math.cos(math.pi)))
print("The value of tan(90°) :",str(math.tan(math.pi/2)))
print("The value of 5^8 :",str(math.pow(5,8)))
print("squareroot of 400 :",math.sqrt(400))
print("Floor and ceiling values of 23.56
:",math.floor(23.56),"and",math.ceil(23.56))
```

Output:-

```
The value of sin(60°) : 0.8660254037844386
The value of cos(pi) : -1.0
The value of tan(90°) : 1.633123935319537e+16
The value of 5^8 : 390625.0
squareroot of 400 : 20.0
Floor and ceiling values of 23.56 : 23 and 24
```