```python
# 1.Write a Python program to find area of a circle using math function.
import math
r=float(input("enter radius of circle: "))
pi=3.14
area=pi*r*r
print("area of cirlce= ",area)
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enter radius of circle: 4.5
area of cirlce=  63.585
```

```python
# 2.Write a program to find Area of Regular Polygon using math function.
import math
n=int(input("enter no of sides: "))
a=int(input("enter length of apothem: "))
s=int(input("enter length of any one side: "))
area=(n*s*a)/2
print("area of regular polygon is= ",area)
```

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enter no of sides: 9
enter length of apothem: 5
enter length of any one side: 4
area of regular polygon is=  90.0
```

```python
# 3.Write a program to find Area of a Segment of a Circle Formula using math function.
import math
pi=3.14
def area_of_segment(radius,angle):
    area_of_sector=pi*(radius*radius)*(angle/360)
    area_of_triangle=1/2*(radius*radius)*math.sin((angle*pi)/180)
    return area_of_sector-area_of_triangle;
radius=10.0
angle=90.0
print("area of minor segment=", area_of_segment(radius,angle))
print("area of major segment=",area_of_segment(radius,(360-angle)))
```

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area of minor segment= 28.50001585340827
area of major segment= 285.4998573193859
```

```python
# 4. write a python program to shuffle list l1=[100,1,2,3,30,40,"hai","hello"].
import random
l1=[100,1,2,3,30,40,"hai","hello"]
print("the given list is: ",l1)
random.shuffle(l1)
print("shuffled list is: ",l1)
```

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the given list is:  [100, 1, 2, 3, 30, 40, 'hai', 'hello']
shuffled list is:  [40, 3, 2, 30, 100, 'hello', 1, 'hai']
```

```python
#5.Write a program to generate random numbers between 1,10000 and
#difference between each random number is 50.
import random
print("random number of list is: ")
print(random.choice(range(1,10000)))
print("random number from range is: ")
print(random.randrange(1,10000,50))
```

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random number of list is:
542
random number from range is:
451
```

```python
# 6.Write a python program by using math module to find
#i.Sin600
#ii.cos(pi)
#iii.tan900
#iv.angle of sin(0.8660254037844386)
#v.5^8
#vi.Square root of 400
#vii.The value of 5^e
#viii.The value of Log(1024), base 2
#ix.The value of Log(1024), base 10
#x.The Floor and Ceiling value of 23.56
import math
print('sin60: ',math.sin(60))
print('cos(pi): ',math.pi)
print('tan90: ',math.tan(90))
print('angle of 0.8660: ',math.degrees(math.sin(0.8660254037844386)))
print('5^8: ',math.pow(5,8))
print('square root of 400: ',math.sqrt(400))
print('the value of 5^e: ',math.pow(5,math.e))
print('the value of log(1024),base 2:',math.log2(1024))
print('the value of log(1024),base 10:',math.log10(1024))
print('the floor and ceiling value of 23.56:',math.floor(23.56))
```

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sin60:  -0.3048106211022167
cos(pi):  3.141592653589793
tan90:  -1.995200412208242
angle of 0.8660:  43.64563193711739
5^8:  390625.0
square root of 400:  20.0
the value of 5^e:  79.43235916621322
the value of log(1024),base 2: 10.0
the value of log(1024),base 10: 3.010299956639812
the floor and ceiling value of 23.56: 23
```