In [1]:
```
#program to find area of circle using math file
import math
r = float(input("Enter the radius of the circle: "))
area = math.pi* r * r
print("%.2f" %area)
```

```
Enter the radius of the circle: 2
12.57
```

In [2]:
```
#program to find area of regular 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)
```

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

In [1]:
```
#Python program to calculate the area of a sector
def sectorarea():
    pi=22/7
    radius = float(input('Radius of Circle: '))
    angle = float(input('angle measure: '))
    if angle >= 360:
        print("Angle is not possible")
        return
    sur_area = (pi*radius**2) * (angle/360)
    print("Sector Area: ", sur_area)
sectorarea()
```

```
Radius of Circle: 4
angle measure: 45
Sector Area:  6.285714285714286
```

In [1]:
```
#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:',(l1))
random.shuffle(l1)
print('the shuffled list:',(l1))
```

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

In [2]:
```
#program to generate random numbers between 1,10000 and difference between eac
h 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))
```

```
random number of list is:
968
random number from range is:
2651
```

In [5]:
```
#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))
```

```
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
```

In [ ]:
```

```