PYTHON FOR DATA SCIENCE

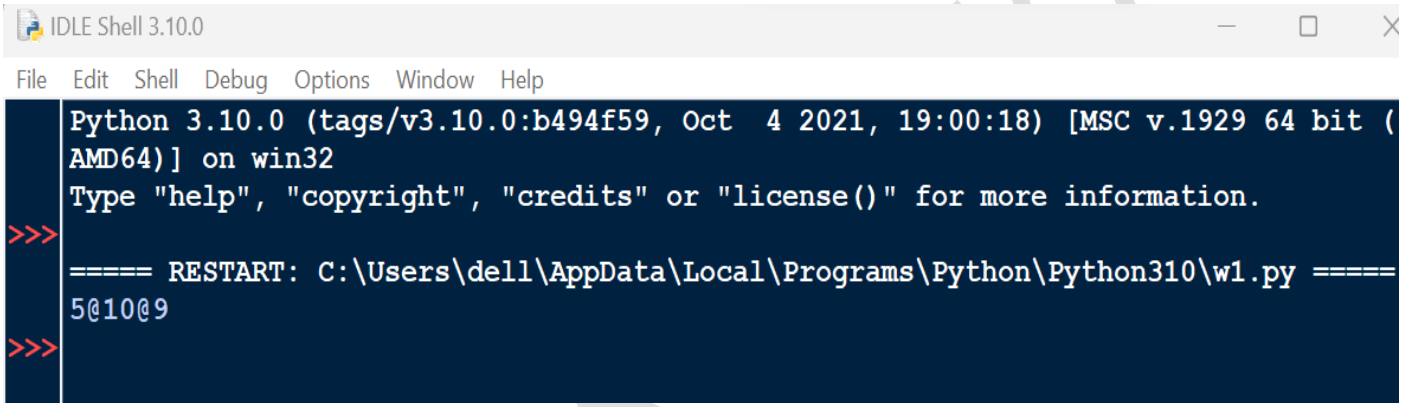
DAY-1 (CLASS CODE)

Q 1. WAP that generate this 5@10@9.

SOURCE CODE :

```
print('5@10@9') #using print() function to print
```

OUTPUT :

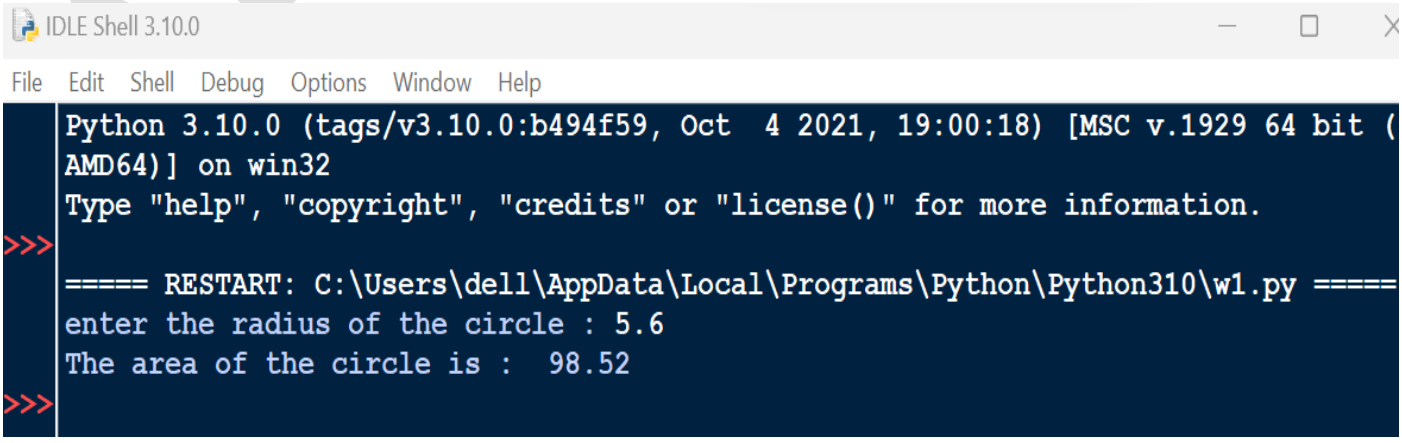


Q 2. WAP to input radius and print area of the circle.

SOURCE CODE :

```
radius=float(input("enter the radius of the circle : "))
print("The area of the circle is : ",round(pi*radius*radius,2))  #pi=3.14 in python
```

OUTPUT :



Q 3. WAP to input 3 subject marks and calculate their average and print also find the percentage of marks.

SOURCE CODE :

```
m1,m2,m3=int(input("Enter the first number : ")),int(input("Enter the second number : ")),int(input("Enter the third number : "))

print("The average of the marks of the three subject having marks",m1,',',m2,'and',m3,'is',round(((m1+m2+m3)/3),2))

p=((m1+m2+m3)/300)*100

print("The percentage for the given marks",m1,',',m2,'and',m3,'is',round(p,2),'%')
```

OUTPUT :

```
Python 3.10.0 (tags/v3.10.0:b494f59, Oct  4 2021, 19:00:18) [MSC v.1929 64 bit (AMD6
)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
enter the radius of the circle : 5.6
The area of the circle is :  98.52
>>>
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
Enter the first number : 45
Enter the second number : 56
Enter the third number : 68
The average of the marks of the three subject having marks 45 , 56 and 68 is 56.33
The percentage for the given marks 45 , 56 and 68 is 56.33 %
>>>
```

Q 4. WAP to Print the health status of a person folowing:

BMI	WEIGHT STATUS
below 18.5	Underweight
18.5-24.9	normal
25-29.9	overweight
30.0 and above	obese

SOURCE CODE :

```
h=float(input("Enter the height of person(in m) :")) #input height

w=float(input("Enter the weight of a person(in kgs):")) #input weight
```

```
bmi=w/h**2
if (bmi<18.5):
    print('UNDERWEIGHT')
elif (bmi>=18.5 and bmi<=24.9):
    print('NORMAL')
elif (m>=25 and bmi<=29.9):
    print('OVERWEIGHT')
else:
    print('OBESE')
```

OUTPUT :

```
Python 3.10.0 (tags/v3.10.0:b494f59, Oct  4 2021, 19:00:18) [MSC v.1929 64 bit (
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
Enter the height of person(in m) :1.6
Enter the weight of a person(in kgs):72
OVERWEIGHT
>>>
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
Enter the height of person(in m) :1.6
Enter the weight of a person(in kgs):50
NORMAL
>>>
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
Enter the height of person(in m) :1.9
Enter the weight of a person(in kgs):56
UNDERWEIGHT
```

Q 4. WAP to print simple interest.

SOURCE CODE :

```
p=int(input("enter the principle for si : "))   #input principle for si
r=float(input("enter the rate for si : "))      #input rate for si
t=int(input("enter the time for si : "))        #input time for si
print("The simple interest of the given data is ",p*r*t/100)
```

OUTPUT :

```
Python 3.10.0 (tags/v3.10.0:b494f59, Oct  4 2021, 19:00:18) [MSC v.1929 64
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py
enter the principle for si (in rupess): 95000
enter the rate for si :  5.7
enter the time for si (in years) : 8
The simple interest of the given data is  43320.0
>>>
```

Q 5. WAP to print compoun interest.

SOURCE CODE :

```
p=int(input("enter the principle for si : ")) #input principle amount for ci
r=float(input("enter the rate for si : "))      #input rate for ci
t=int(input("enter the time for si : "))        #input time period for ci
n=int(input("enter the no. of time interst charged in a year for si : "))
print("The compound interest of the given data is ",(pow(p(1+r/n),nt)))
```

OUTPUT :

```
Python 3.10.0 (tags/v3.10.0:b494f59, Oct  4 2021, 19:00:18) [MSC v.1929 64 bit
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
enter the principle for si : 56784
enter the rate for si : 4.5
enter the time for si : 4
enter the no. of time interst charged in a year for si : 3
The compound interest of the given data is  6.698720972111507e+61
>>>
```

Q 6. WAP to calculate EMI.

SOURCE CODE :

```
principal = float(input("Enter the loan amount: "))
rate = float(input("Enter the interest rate (per annum): "))
tenure = float(input("Enter the loan tenure (in years): "))
rate = rate / (12 * 100)  # monthly interest rate
tenure = tenure * 12    # loan tenure in months
```

```
emi = (principal * rate * pow(1 + rate, tenure)) / (pow(1 + rate, tenure) - 1)
print("Monthly EMI: ", round(emi, 2))
```

OUTPUT :

```
Python 3.10.0 (tags/v3.10.0:b494f59, Oct  4 2021, 19:00:18) [MSC v.1929 64 bit
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
Enter the loan amount: 300050
Enter the interest rate (per annum): 5
Enter the loan tenure (in years): 3.4
Monthly EMI:  8012.25
>>>
```

Q 7. WAP to take temperature in celsius and find result in farenheit.

SOURCE CODE :

```
temp=float(input("Enter the temperature in celsius : "))
print("The temperature in farenheit is ", temp*9/5+32)
```

OUTPUT :

```
>>>
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
Enter the temperature in celsius : 45.7
The temperature in farenheit is  114.26
>>>
```

Q 8. WAP to area of triangle by heron's formula by taking all sides input.

SOURCE CODE :

```
def triangle_area(x,y,z):
    s=(x+y+z)/2
    ar=sqrt(s*(s-x)*(s-y)*(s-z))
    return ar

#main code
a=int(input("Enter the first sides : "))
b=int(input("Enter the first sides : "))
```

```
c=int(input("Enter the first sides : "))
area=triangle_area(a,b,c)
print("The area of triangle of given side is ",round(area,2))
```

OUTPUT :

```
>>>
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
Enter the first sides : 12
Enter the first sides : 13
Enter the first sides : 14
The area of triangle of given side is  72.31
```

----------END OF THE FILE----------