



Rollwala Computer Center

Introduction to Python Programing

Assignment 1

Name : Mer Sagar B.

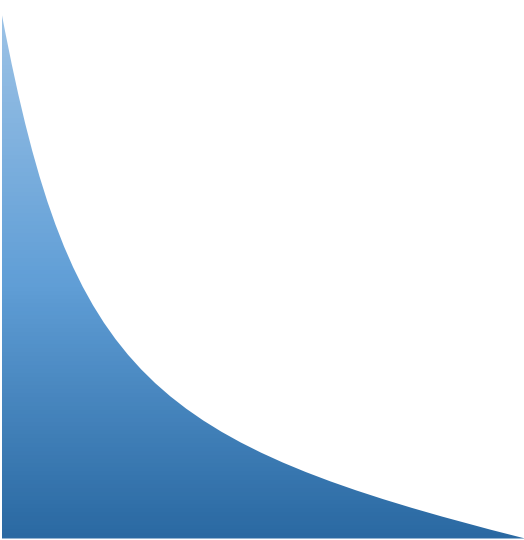
Roll No : 21

Course : Master of Computer Application

Semester : 1st



5 Dec, 2021



1. Write a program to add, multiply and divide two integers and float numbers.

'''

Write a program to add, multiply and divide two integers and float numbers.

Name : Mer Sagar Roll No.: 21
Class : MCA sem-1 Year : 2021-22

'''

```
print("\nFor Integer Numbers \n=====")
```

```
a=50
```

```
b=5
```

```
print("Sum = ",a+b)
```

```
print("Subtraction = ",a-b)
```

```
print("Multiplication = ",a*b)
```

```
print("Division = ",a/b)
```

```
print("\nFor Float Numbers \n=====")
```

```
a=23.40
```

```
b=5.2
```

```
print("Sum = ",a+b)
```

```
print("Subtraction = ",a-b)
```

```
print("Multiplication = ",a*b)
```

```
print("Division = ",a/b)
```

Output:

For Integer Numbers

```
=====
```

Sum = 55

Subtraction = 45

Multiplication = 250

Division = 10.0

For Float Numbers

```
=====
```

Sum = 28.599999999999998

Subtraction = 18.2

Multiplication = 121.67999999999999

Division = 4.5

2. Write a program to check whether the entered number is even or odd.

```
'''
```

Write a program to check whether the entered number is even or odd.

```
Name : Mer Sagar      Roll No.: 21
Class : MCA sem-1     Year  : 2021-22
'''
```

```
num = int(input("Enter Number : "))

if (num % 2) == 0:
    print("{0} is Even number.".format(num))
else:
    print("{0} is Odd number.".format(num))
```

Output:

Enter Number : 78

78 is Even number.

3. Write a program to tell if a year is a leap year Or Not.

```
'''
```

Write a program to tell if a year is a leap year Or Not.

```
Name : Mer Sagar      Roll No.: 21
Class : MCA sem-1     Year  : 2021-22
'''
```

```
year = int(input("Enter Year : "))

if (year % 400 == 0) or (year % 100 != 0) and (year % 4 == 0):
    print("{0} is Leap Year.".format(year))
else:
    print("{0} is not Leap Year.".format(year))
```

Output:

Enter Year : 1900

1900 is not Leap Year.

4. Write a program to tell if a year is a leap year or not.

```
'''
```

Write a program to determine the maximum of 3 numbers.

```
Name : Mer Sagar      Roll No.: 21
Class : MCA sem-1     Year  : 2021-22
'''
```

```
m = int(input("Enter first number : "))
e = int(input("Enter second number : "))
r = int(input("Enter third number : "))

if (m>e) and (m>r):
    print("\n{0} is Maximum Number among three.".format(m))
elif (e>m) and (e>r):
    print("\n{0} is Maximum Number among three.".format(e))
else:
    print("\n{0} is Maximum Number among three.".format(r))
```

Output:

Enter first number : 90

Enter second number : 888

Enter third number : 45

888 is Maximum Number among three.

5. Write a program to accept number of days and print year, month and remaining days.

```
'''
```

Write a program to accept number of days and print year, month and remaining days.

```
Name : Mer Sagar      Roll No.: 21
Class : MCA sem-1     Year  : 2021-22
'''
```

```
ndays = int(input("Enter Number of Days : "))

year = int(ndays/365);

ndays = int(ndays-365*year);    #return remaining day after year

month = int(ndays/30);         #return month calculate by remain day

day = ndays-(month*30);        #remain day after year - remain month*30

print("\nYear : ",year)
print("Month : ",month)
print("Days : ",day)
```

Output:

Enter Number of Days : 400

Year : 1

Month : 1

Days : 5

6. Write a program to swap the values of two variables.

```
'''
```

Write a program to swap the values of two variables.

```
Name : Mer Sagar      Roll No.: 21
Class : MCA sem-1     Year  : 2021-22
'''
```

```
first = int(input("Enter 1st Number : "))
second = int(input("Enter 2nd Number : "))
```

```
first, second = second, first
```

```
print("\nFirst value :",first)
print("\nSecond value :",second)
```

Output:

Enter 1st Number : 12

Enter 2nd Number : 45

First value : 45

Second value : 12

7. Admission to a professional course is subject to the following conditions :

(a) marks in mathematics ≥ 60

(b) marks in physics ≥ 50

(c) marks in chemistry ≥ 40

(d) total in all three subjects ≥ 200

or

total in mathematics and physics ≥ 150

given the marks in the three subjects , write a program to process the applications to list an eligible candidate..

'''

Admission to a professional course is subject to the following conditions :

(a) marks in mathematics ≥ 60

(b) marks in physics ≥ 50

(c) marks in chemistry ≥ 40

(d) total in all three subjects ≥ 200

or

total in mathematics and physics ≥ 150

given the marks in the three subjects , write a program to process the applications to list an eligible candidate.

Name : Mer Sagar Roll No.: 21
Class : MCA sem-1 Year : 2021-22

'''

```
math = int(input("Enter Marks of Mathematics : "))
```

```
phy = int(input("Enter Marks of Physics : "))
```

```
chem = int(input("Enter Marks of Chemistry : "))
```

```
total=math+phy+chem
```

```
if (math >= 60) and (phy >= 50) and (chem >= 40):
```

```
    if (phy+math>=150)or(total>=200):
```

```
        print("Yes candidate is eligible")
```

```
    else:
```

```
        print("sorry, candidate is not eligible")
```

```
else:
```

```
    print("sorry, candidate is not eligible")
```

Output:**Enter Marks of Mathematics : 65****Enter Marks of Physics : 55****Enter Marks of Chemistry : 80****Yes candidate is eligible**

8. Write a program that reads the percentage obtained by the students and determines and prints the class obtained by the student as per the following rules

Percentage	Class
0 - 39	Fail
40 - 59	Second class
60 - 79	First class
80 - 100	Distinction

'''

Write a program that reads the percentage obtained by the students and determines and prints the class obtained by the student as per the following rules

Percentage	Class
0 - 39	Fail
40 - 59	Second class
60 - 79	First class
80 - 100	Distinction.

Name : Mer Sagar Roll No.: 21
 Class : MCA sem-1 Year : 2021-22

'''


```

per = int(input("Enter Percentage : "))

if (per>=80 and per<=100):
    print("Student pass with Distinction")
elif (per>=60 and per<=79):
    print("Student pass with First class")
elif (per>=40 and per<=59):
    print("Student pass with Second class")
elif (per>=0 and per<=39):
    print("Fail, Batter Luck next Time!!")
else:
    print("Please enter valid percentage")

```

Output:

Enter Percentage: 89

Student pass with Distinction

9. Write a program to calculate the average of a set of n given numbers.

```
'''
```

Write a program to calculate the average of a set of n given numbers.

```

Name : Mer Sagar      Roll No.: 21
Class : MCA sem-1     Year  : 2021-22
'''

```

```

n = int(input("Enter Number of Element : "))
avg=0

for i in range(n):
    num = int(input("Enter value : "))
    avg= avg+ num;

print("\n Average of {0} Number is : {1}".format(n,avg/n))

```

Output:

Enter Number of Element : 5

Enter value : 99

Enter value : 98

Enter value : 97

Enter value : 99

Enter value : 99

Average of 5 Number is : 98.4

10. Write a program to calculate the area of circle/rectangle/triangle.

C indicate circle,

R indicate rectangle,

T indicate triangle.

use symbolic constant to define the value of pie.

'''

Write a program to calculate the area of circle/rectangle/triangle.

C indicate circle ,

R indicate rectangle,

T indicate triangle.

use symbolic constant to define the value of pie.

Name : Mer Sagar Roll No.: 21
Class : MCA sem-1 Year : 2021-22
'''

PI=3.14

```
print("\n C for Circle")  
print("\n R for Rectangle")  
print("\n T for Triangle")
```

```
ch = input("Which area of Shape you want to find : ")
```

```
if(ch == 'C'):  
    r = int(input("Enter Radius of Circle : "))  
    area = PI * r * r;  
    print("Area of Circle : ",area)
```

```
elif (ch == 'R'):  
    w = int(input("Enter Width of rectangle : "))  
    h = int(input("Enter Height of rectangle : "))  
    area = w * h;  
    print("Area of Rectangle : ",area)
```

```
elif(ch == 'T'):  
    b = int(input("Enter Base of triangle : "))  
    h = int(input("Enter Height of triangle : "))  
    area = (h * b)/2;  
    print("Area of Triangle : ",area)
```

```
else:  
    print("Please, enter valid indicator")
```

Output:

C for Circle

R for Rectangle

T for Triangle

Which area of Shape you want to find : C

Enter Radius of Circle : 5

Area of Circle : 78.5

11. Write a program that accept basic, HRA, and DA from the user and calculate total salary.

```
'''
```

Write a program that accept basic, HRA, and DA from the user and calculate total salary.

```
Name : Mer Sagar      Roll No.: 21
Class : MCA sem-1     Year  : 2021-22
'''
```

```
basic =int(input(" Enter basic salary : "))
p_hra =float(input(" Enter HRA in percentage : "))
p_da =float(input(" Enter DA in percentage : "))
```

```
hra = (basic * p_hra)/100
da  = (basic * p_da)/100
```

```
gs  = basic + hra + da
```

```
print("Gross Salary = ", gs);
```

Output:

Enter basic salary : 20000

Enter hra in percentage : 4

Enter da in percentage : 8

Gross Salary = 22400.0

(12) Generate the following pattern:

(12.1) * * * * *

* * * * *

* * * * *

* * * * *

* * * * *

'''

Generate the following pattern:

* * * * *

* * * * *

* * * * *

* * * * *

* * * * *

Name : Mer Sagar Roll No.: 21
Class : MCA sem-1 Year : 2021-22
'''

```
for i in range(1,6):
    for j in range(1,6):
        print("*",end=" ")
    print()
```

Output:

* * * * *

* * * * *

* * * * *

* * * * *

* * * * *

```
(12.2) *
      * *
      * * *
      * * * *
      * * * * *
```

'''

Generate the following pattern:

```
*
* *
* * *
* * * *
* * * * *
```

Name : Mer Sagar Roll No.: 21
Class : MCA sem-1 Year : 2021-22

'''

```
for i in range(1,6):
    for j in range(1,i+1):
        print("*",end=" ")
    print()
```

Output:

```
*
* *
* * *
* * * *
* * * * *
```

```
(12.3) * * * * *
      * * * *
      * * *
      * *
      *
```

'''

Generate the following pattern:

```

* * * * *
* * * *
* * *
* *
*

```

Name : Mer Sagar Roll No.: 21
 Class : MCA sem-1 Year : 2021-22
 '''

```

for i in range(5,0,-1):
    for j in range(0,i):
        print("*",end=" ")
    print()

```

Output:

```

* * * * *
* * * *
* * *
* *
*

```

(12.4) * * * * *

```

*           *
*           *
*           *
* * * * *

```

'''

Generate the following pattern:

```

* * * * *
*           *
*           *
*           *
* * * * *

```

Name : Mer Sagar Roll No.: 21

Class : MCA sem-1 Year : 2021-22

'''

```
for i in range(1,6):
    for j in range(1,6):
        if i==1 or i==5 or j==1 or j==5:
            print("*",end=" ")
        else:
            print(" ",end=" ")
    print()
```

Output:

* * * * *

* *

* *

* *

* * * * *

(12.5) * * * * *

* * * *

* * *

* *

*

'''

Generate the following pattern:

* * * * *

* * * *

* * *

* *

*

Name : Mer Sagar Roll No.: 21
Class : MCA sem-1 Year : 2021-22

'''

```

for i in range(1,6):
    for j in range(1,i+1):
        print(" ",end=" ")

    for k in range(1,7-i):
        print("*",end=" ")

    print()

```

Output:

```

* * * * *
  * * * *
    * * *
      * *
        *

```

(12.6)

```

5
54
543
5432
54321

```

'''

Generate the following pattern:

```

5
54
543
5432
54321

```

Name : Mer Sagar Roll No.: 21
 Class : MCA sem-1 Year : 2021-22
 '''

```
for i in range(5,0,-1):
    for j in range(5,i-1,-1):
        print(j,end=" ")
    print()
```

Output:

```
5
5 4
5 4 3
5 4 3 2
5 4 3 2 1
```

```
(12.7) 1
2 2
3 3 3
4 4 4 4
5 5 5 5 5
```

'''

Generate the following pattern:

```
1
22
333
4444
55555
```

Name : Mer Sagar Roll No.: 21
 Class : MCA sem-1 Year : 2021-22
 '''

```
for i in range(1,6,1):
    for j in range(1,i+1,1):
        print(i,end=" ")
    print()
```

Output:

```
1
2 2
3 3 3
4 4 4 4
5 5 5 5 5
```

(12.8)

```
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
```

'''

Generate the following pattern:

```
1
12
123
1234
12345
```

Name : Mer Sagar Roll No.: 21
Class : MCA sem-1 Year : 2021-22

'''

```
for i in range(1,6,1):
    for j in range(1,i+1,1):
        print(j,end=" ")
    print()
```

Output:

```
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
```

(12.9)

```

    1
   232
  34543
 4567654
567898765
67890109876
7890123210987
890123454321098
90123456765432109

```

'''

Generate the following pattern:

```

    1
   232
  34543
 4567654
567898765
67890109876
7890123210987
890123454321098
90123456765432109

```

Name : Mer Sagar Roll No.: 21
 Class : MCA sem-1 Year : 2021-22

'''

```

num= 1
for i in range(1,10):
    num=i
    for j in range(10,i,-1):
        print(" ",end=" ")

    for k in range(1,i+1):
        print(num,end=" ")
        num=num+1;

```

```
for l in range(2,i+1):
    print(l,end=" ")

print()
```

Output:

```

      1
    2 3 2
  3 4 5 2 3
4 5 6 7 2 3 4
5 6 7 8 9 2 3 4 5
6 7 8 9 10 11 2 3 4 5 6
7 8 9 10 11 12 13 2 3 4 5 6 7
8 9 10 11 12 13 14 15 2 3 4 5 6 7 8
9 10 11 12 13 14 15 16 17 2 3 4 5 6 7 8 9
```

(12.10) 1 2 3 4 5

1 2 3 4

1 2 3

1 2

1

'''

Generate the following pattern:

```

12345
1234
123
12
1
```

Name : Mer Sagar Roll No.: 21
Class : MCA sem-1 Year : 2021-22
'''

```
for i in range(6,0,-1):  
    for j in range(1,i):  
        print(j,end=" ")  
    print()
```

Output:

12345

1234

123

12

1