

Department Of Computer Science

Gujarat University



Certificate

Roll No: 40

Seat No: _____

*This is to certify that Mr. / Ms. Akshit Trivedi Ajaybhai
student of MCA Semester - I, has duly completed his/her term work for the
semester ending in February 2022, in the subject of Introduction to Python
Programming towards partial fulfillment of his / her Degree of
Masters in Computer Science & Application.*

24/02/2022
Date of Submission

Internal Faculty

Head of Department

Department Of Computer Science Gujarat University

MCA - 1

Subject: - Introduction to Python Programming

Name: - Akshit Trivedi Ajaybhai

Roll No.: - 40 **Exam Seat No.: -** _____

Rollwala Computer Center

**INTRODUCTION TO PYTHON
PROGRAMMING**

Assignment-1

Dec 02, 2021



Name: **Akshit Trivedi**

Roll No: **40**

Course: **Master of Computer Application**

Sem: **1st**

PYTHON ASSIGNMENT-1

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

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

INPUT:

"""

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

Name : Akshit Trivedi	Roll No.: 40
Class : MCA sem-1	Year : 2021-22

"""

```
print("Program to add, multiply and divide two integers and float numbers.")
```

```
ch = input("Enter 1 for Integer and 2 for Float: ")
```

```
if ch=='1':  
    num1 = int(input("Enter First Float Number: "))  
    num2 = int(input("Enter Second Float Number: "))  
    print("\nAddition is: ",num1+num2)  
    print("Multiplication is: ",num1*num2)  
    print("Division is: ",num1/num2)  
  
elif ch=='2':  
    num1 = float(input("Enter First Float Number: "))  
    num2 = float(input("Enter Second Float Number: "))  
    print("\nAddition is: ",float(num1+num2))  
    print("Multiplication is: ",float(num1*num2))  
    print("Division is: ",float(num1/num2))  
else:  
    print("Invalid Choice: ")
```

OUTPUT:

Program to add, multiply and divide two integers and float numbers.

```
Enter 1 for Integer and 2 for Float: 1
```

```
Enter First Float Number: 5
```

```
Enter Second Float Number: 5
```

PYTHON ASSIGNMENT-1

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

Addition is: 10
Multiplication is: 25
Division is: 1.0

Program to add, multiply and divide two integers and float numbers.

Enter 1 for Integer and 2 for Float: 2

Enter First Float Number: 5.85

Enter Second Float Number: 6.99

Addition is: 12.84
Multiplication is: 40.8915
Division is: 0.8369098712446351

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

INPUT:

"""

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

Name : Akshit Trivedi	Roll No.: 40
Class : MCA sem-1	Year : 2021-22

"""

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

if(num%2==0):
    print("{0} is an Even Number".format(num))

else:
    print("{0} is an Odd Number".format(num))
```

OUTPUT:

Enter Number: 50
50 is an Even Number

PYTHON ASSIGNMENT-1

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

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

INPUT:

"""

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

```
Name : Akshit Trivedi          Roll No.: 40
Class : MCA sem-1             Year    : 2021-22
"""

```

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

if(year%4==0):
    if(year%100==0):
        if(year%400==0):
            print("{0} is a leap year".format(year))
        else:
            print("{0} is not a leap year".format(year))
    else:
        print("{0} is a leap year".format(year))
else:
    print("{0} is not a leap year".format(year))
```

OUTPUT:

Enter Year to check: 2021

2021 is not a leap year

Enter Year to check: 1984

1984 is a leap year

4 Write a program to determine the maximum of 3 numbers.

INPUT:

"""

4. Write a program to determine the maximum of 3 numbers.

```
Name : Akshit Trivedi          Roll No.: 40
Class : MCA sem-1             Year    : 2021-22
"""

```

```
num1=float(input("Enter Num1: "))
num2=float(input("Enter Num2: "))
num3=float(input("Enter Num3: "))
```

PYTHON ASSIGNMENT-1

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

```
if(num1>=num2) and (num1>=num3):
    print("\n{} is the Greatest of all Numbers.".format(num1))
elif(num2>=num3) and (num2>=num1):
    print("\n{} is the Greatest of all Numbers.".format(num2))
else:
    print("\n{} is the Greatest of all Numbers.".format(num3))
```

OUTPUT:

Enter Num1: 50.65

Enter Num2: 65.88

Enter Num3: 66.78

66.78 is the Greatest of all Numbers.

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

INPUT:

"""

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

Name : Akshit Trivedi	Roll No.: 40
Class : MCA sem-1	Year : 2021-22

"""

```
days=int(input("Enter Days: "))

years = (days // 365)
months = (days - years * 365) // 30
rem_days = (days - years * 365 - months * 30)

print("Years:",years)
print("Months:",months)
print("Days:",rem_days)
```

PYTHON ASSIGNMENT-1

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

OUTPUT:

Enter Days: 1234
Years: 3
Months: 4
Days: 19

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

INPUT:

"""

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

```
Name : Akshit Trivedi          Roll No.: 40
Class : MCA sem-1             Year     : 2021-22
"""


```

```
num1=float(input("Enter Value of 1st Number: "))
num2=float(input("Enter Value of 2nd Number: "))

print("\n\nValue Before Swapping: ")
print("\nValue of 1st Number: ",num1)
print("Value of 2nd Number: ",num2)

num1,num2=num2,num1

print("\n\nValue After Swapping: ")
print("\nValue of 1st Number: ",num1)
print("Value of 2nd Number: ",num2)
```

OUTPUT:

Enter Value of 1st Number: 10.20

Enter Value of 2nd Number: 20.10

Value Before Swapping:

Value of 1st Number: 10.2
Value of 2nd Number: 20.1

Value After Swapping:

PYTHON ASSIGNMENT-1

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

Value of 1st Number: 20.1

Value of 2nd Number: 10.2

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

marks in mathematics >= 60

marks in physics >= 50

marks in chemistry >= 40

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.

INPUT:

"""

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.

Name : Akshit Trivedi

Roll No.: 40

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: "))
```

```
tot=math+phy+chem
```

```
pm=phy+math
```

```
if(math>=60 and phy>=50 and chem>=40 and (tot>=200 or pm>=150)):
```

```
    print("\nStudent is Eligible")
```

```
else:
```

PYTHON ASSIGNMENT-1

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

```
print("Student is not Eligible")
```

OUTPUT:

Enter Marks of Mathematics: 75

Enter Marks of Physics: 80

Enter Marks of Chemistry: 85

Student is Eligible

Enter Marks of Mathematics: 65

Enter Marks of Physics: 45

Enter Marks of Chemistry: 55

Student is not 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

INPUT:

"""

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

PYTHON ASSIGNMENT-1

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

80 - 100 Distinction

Name : Akshit Trivedi Roll No.: 40
Class : MCA sem-1 Year : 2021-22
"""

```
name=input("Enter Your Name: ")  
per=int(input("Enter your Percentage: "))  
  
if(per>=0 and per<=39):  
    print("Student {name} is Fail. Better Luck Next Time!".format(name=name))  
elif(per>=40 and per<=59):  
    print("Student {name} has got Second Class.".format(name=name))  
elif(per>=60 and per<=79):  
    print("Student {name} has got First Class.".format(name=name))  
elif(per>=80 and per<=100):  
    print("Student {name} has got Distinction.".format(name=name))
```

OUTPUT:

Enter Your Name: Akshit Trivedi

Enter your Percentage: 80
Student Akshit Trivedi has got Distinction.

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

INPUT:

"""

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

Name : Akshit Trivedi Roll No.: 40
Class : MCA sem-1 Year : 2021-22
"""

```
avg=0  
n=int(input("How many Elements do you want to Enter: "))  
  
for i in range(n):  
    num=int(input("Enter the Value for Element {0}: ".format(i+1)))  
    avg=avg+num;
```

PYTHON ASSIGNMENT-1

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

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

OUTPUT:

How many Elements do you want to Enter: 2

Enter the Value for Element 1: 5

Enter the Value for Element 2: 10

The Average of 2 Numbers is: 7.5

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.

INPUT:

"""

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.

Name : Akshit Trivedi

Roll No.: 40

Class : MCA sem-1

Year : 2021-22

"""

PI=3.14

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

```
ch = input("Enter your Choice : ")
```

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

PYTHON ASSIGNMENT-1

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

```
print("\nArea of Circle : ",area)

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

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

else:
    print("Invalid Choice!!! Please Try Again.")
```

OUTPUT:

Enter C for Circle

Enter R for Rectangle

Enter T for Triangle

Enter your Choice : c

Enter Radius of Circle : 12

Area of Circle : 452.15999999999997

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

INPUT:

"""

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

Name : Akshit Trivedi

Roll No.: 40

Class : MCA sem-1

Year : 2021-22

"""

```
basic =int(input(" Enter Basic Salary : "))
```

PYTHON ASSIGNMENT-1

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

```

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(" \nGross Salary is: { {0:.2f} ₹".format(gs));

```

OUTPUT:

Enter Basic Salary : 10578.95

Enter HRA in Percentage (%) : 4.59

Enter DA in Percentage (%) : 6.74

Gross Salary is: 11777.55 ₹

12(1). Generate the following pattern:

```

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

```

INPUT:

"""

12(1). Generate the following pattern:

```

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

```

Name : Akshit Trivedi	Roll No.: 40
Class : MCA sem-1	Year : 2021-22

"""

```

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

```

PYTHON ASSIGNMENT-1

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

OUTPUT:

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

12(2). Generate the following pattern:

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

INPUT:

```
"""
```

12(2). Generate the following pattern:

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

```
Name : Akshit Trivedi          Roll No.: 40  
Class : MCA sem-1             Year    : 2021-22  
"""
```

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

OUTPUT:

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

PYTHON ASSIGNMENT-1

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

12(3). Generate the following pattern:

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

INPUT:

"""

12(3). Generate the following pattern:

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

Name : Akshit Trivedi
Class : MCA sem-1

Roll No.: 40
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:

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

INPUT:

"""

12(4). Generate the following pattern:

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

PYTHON ASSIGNMENT-1

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

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

```
Name  : Akshit Trivedi          Roll No.: 40
Class : MCA sem-1              Year    : 2021-22
"""

```

```
for i in range(0,5):
    for j in range(0,5):
        if i==0 or i==4 or j==0 or j==4:
            print("*",end=" ")
        else:
            print(" ",end=" ")
print()
```

OUTPUT:

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

12(5). Generate the following pattern:

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

INPUT:

```
"""

```

12(5). Generate the following pattern:

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

```
Name  : Akshit Trivedi          Roll No.: 40
Class : MCA sem-1              Year    : 2021-22
"""

```

PYTHON ASSIGNMENT-1

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

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

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

print()
```

OUTPUT:

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

12(6). Generate the following pattern:

```
5
54
543
5432
54321
```

INPUT:

```
"""
```

12(6). Generate the following pattern:

```
5
54
543
5432
54321
```

Name : Akshit Trivedi

Class : MCA sem-1

Roll No.: 40

Year : 2021-22

```
"""
```

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

PYTHON ASSIGNMENT-1

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

OUTPUT:

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

12(7). Generate the following pattern:

```
1
22
333
4444
55555
```

INPUT:

```
"""
```

12(7). Generate the following pattern:

```
1
22
333
4444
55555
```

Name : Akshit Trivedi	Roll No.: 40
Class : MCA sem-1	Year : 2021-22

```
"""
```

```
for i in range(0,6,1):
    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
```

PYTHON ASSIGNMENT-1

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

12(8). Generate the following pattern:

1
12
123
1234
12345

INPUT:

"""

12(8). Generate the following pattern:

1
12
123
1234
12345

Name : Akshit Trivedi
Class : MCA sem-1

Roll No.: 40
Year : 2021-22

"""

```
for i in range(0,6,1):
    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). Generate the following pattern:

1
232
34543
4567654
567898765
67890109876
7890123210987
890123454321098
90123456765432109

PYTHON ASSIGNMENT-1

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

INPUT:

"""

12(9). Generate the following pattern:

```
1
232
34543
4567654
567898765
67890109876
7890123210987
890123454321098
90123456765432109
```

Name : Akshit Trivedi	Roll No.: 40
Class : MCA sem-1	Year : 2021-22

"""

```
x=0
for i in range(9):
    print(" "*(10-i),end="")
    for j in range(i+1):
        if (x==9):
            x=0
        else:
            x+=1
        print(x,end="")
    for j in range(i):
        if (x==0):
            x=9
        else:
            x-=1
        print(x,end="")
    print("")
```

OUTPUT:

```
1
232
34543
4567654
567898765
67890109876
7890123210987
890123454321098
90123456765432109
```

PYTHON ASSIGNMENT-1

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

12(10). Generate the following pattern:

**12345
1234
123
12
1**

INPUT:

"""

12(10). Generate the following pattern:

12345
1234
123
12
1

Name : Akshit Trivedi Roll No.: 40
Class : MCA sem-1 Year : 2021-22

"""

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

OUTPUT:

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

Rollwala Computer Center

**INTRODUCTION TO PYTHON
PROGRAMMING**

Assignment-2

Dec 22, 2021



Name: **Akshit Trivedi**

Roll No: **40**

Course: **Master of Computer Application**

Sem: **1st**

PYTHON ASSIGNMENT-2

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

1 Write a Python program to calculate the length of a string.

INPUT:

"""

- 1). Write a Python program to calculate the length of a string.

```
Name : Akshit Trivedi          Roll No.: 40
Class : MCA sem-1             Year     : 2021-22    Practical
Assignment-2
"""
```

```
str=input("Enter the String: ")
```

```
print("Entered String is: {0} and its length is:
{1}".format(str,len(str)))
#print("The length is : ",len(str))
```

OUTPUT:

Enter the String: Akshit

Entered String is: Akshit and its length is: 6

2 Write a Python program to get a string made of the first 2 and the last 2 chars from a given a string.

Ex Input : beautiful Expected Output : beul

INPUT:

"""

- 2). Write a Python program to get a string made of the first 2 and the last 2 chars from a given a string.

Ex Input : beautiful Expected Output : beul

```
Name : Akshit Trivedi          Roll No.: 40
Class : MCA sem-1             Year     : 2021-22    Practical
Assignment-2
"""
```

```
str=input("Enter the String: ")
print("Your Entered String is: ",str)
str=str[0:2]+str[-2:]
print("Output with First 2 & Last 2 Chars is: ",str)
```

PYTHON ASSIGNMENT-2

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

OUTPUT:

Enter the String: beautiful
Your Entered String is: beautiful
Output with First 2 & Last 2 Chars is: beul

- 3 Write a Python program to get a string from a given string where all occurrences of its first char have been changed to '\$', except the first char itself.**

Ex Input : abracadabra Expected Output : abr\$c\$d\$br\$

INPUT:

"""

- 3). Write a Python program to get a string from a given string where all occurrences of its first char have been changed to '\$', except the first char itself.

Ex Input : abracadabra Expected Output : abr\$c\$d\$br\$

Name : Akshit Trivedi	Roll No.: 40
Class : MCA sem-1	Year : 2021-22
Assignment-2	Practical

"""

```
str=input("Enter the String: ")  
char=str[0]  
str=str.replace(char, '$')  
str=char+str[1:]  
print("String with $: "+str)
```

OUTPUT:

Enter the String: abracadabra
String with \$: abr\$c\$d\$br\$

- 4 Write a Python program to get a single string from two given strings, separated by a space and swap the first two characters of each string.**

INPUT:

"""

- 4). Write a Python program to get a single string from two given strings, separated by a space and swap the first two characters of each string.

Ex Input : st1=hello st2=world

Expected Output : st3=wollo herld

PYTHON ASSIGNMENT-2

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

Name : Akshit Trivedi Roll No.: 40
Class : MCA sem-1 Year : 2021-22 Practical
Assignment-2
"""

```
single_str=input("Enter a String: ")  
x=single_str.split()  
st1=x[0]  
st2=x[1]  
  
print("String1 is: "+st1)  
print("String2 is: "+st2)  
temp=st1[0:2]  
st1=st1.replace(st1[:2],st2[:2])  
st2=st2.replace(st2[:2],temp)  
  
st3=st1+ " " +st2  
print("Combined String: "+st3)
```

OUTPUT:

```
Enter a String: hello world  
String1 is: hello  
String2 is: world  
Combined String: wollo herld
```

- 5 Write a Python program to add 'ing' at the end of a given string (length should be at least 3). If the given string already ends with 'ing' then add 'ly' instead. If the string length of the given string is less than 3, leave it unchanged.**

Ex Input : test Expected Output : testing

If Input : testing Expected Output: testingly

INPUT:

"""

5). Write a Python program to add 'ing' at the end of a given string (length should be at least 3). If the given string already ends with 'ing' then add 'ly' instead. If the string length of the given string is less than 3, leave it

PYTHON ASSIGNMENT-2

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

unchanged.

Ex Input : test Expected Output : testing
If Input : testing Expected Output: testingly

```

Name  : Akshit Trivedi          Roll No.: 40
Class : MCA sem-1             Year    : 2021-22    Practical
Assignment-2
"""

str=input("Enter the String: ")
if len(str)<=3:
    print("Your String: "+str)
elif (str[-3:]=='ing'):
    print("Your String: "+str+'ly')
else:
    print("Your String: "+str+'ing')

```

OUTPUT:

Enter the String: test
Your String: testing

Enter the String: testing
Your String: testingly

6 Write a Python program to remove the nth index character from a nonempty string.

INPUT:

"""

6). Write a Python program to remove the nth index character from a nonempty string.

```

Name  : Akshit Trivedi          Roll No.: 40
Class : MCA sem-1             Year    : 2021-22    Practical
Assignment-2
"""

str=input("Enter the String: ")
print("Your Entered String: "+str)
n=int(input("Enter Index: "))
first=str[0:n]
last=str[n+1:]
str=first+last
print("\nString after removing {0}th Index is: {1}".format(n,str))

```

PYTHON ASSIGNMENT-2

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

OUTPUT:

Enter the String: akshit
Your Entered String: akshit

Enter Index: 3

String after removing 3th Index is: aksit

7 Write a Python program to remove the characters which have odd index values of a given string.

INPUT:

"""

7). Write a Python program to remove the characters which have odd index values of a given string.

Name : Akshit Trivedi	Roll No.: 40
Class : MCA sem-1	Year : 2021-22
Assignment-2	Practical

"""

```
str=input("Enter the String: ")  
print("Your Entered String: "+str)  
odd=str[1::+2]  
print("String with odd Index: "+odd)
```

OUTPUT:

Enter the String: akshit
Your Entered String: akshit
String with odd Index: kht

8 Write a Python script that takes input from the user in proper cause and displays that input back in upper and lower cases.

INPUT:

"""

8). Write a Python script that takes input from the user in proper cause and displays that input back in upper and lower cases.

PYTHON ASSIGNMENT-2

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

```
Name : Akshit Trivedi          Roll No.: 40
Class : MCA sem-1             Year    : 2021-22      Practical
Assignment-2
"""


```

```
str=input("Enter the String: ")
print("Displaying String in Lower Case: {}".format(str.lower()))
print("Displaying String in Upper Case: {}".format(str.upper()))
```

OUTPUT:

```
Enter the String: Akshit
Displaying String in Lower Case: akshit
Displaying String in Upper Case: AKSHIT
```

9 Write a Python program to get the second largest number from a list.

INPUT:

```
"""
9). Write a Python program to get the second largest number from a list.
```

```
Name : Akshit Trivedi          Roll No.: 40
Class : MCA sem-1             Year    : 2021-22      Practical
Assignment-2
"""

lst=[]
n=int(input("How many elements you want to Enter: "))

for i in range(0,n):
    ele=int(input("Enter the Element {0}: ".format(i+1)))
    lst.append(ele)
print("\nEnterd List is: ",lst)
lst.sort()
print("\nSorted List is: ",lst)
print("\n2nd Largest Number is: ",lst[-2])
```

OUTPUT:

```
How many elements you want to Enter: 5
```

```
Enter the Element 1: 8
```

PYTHON ASSIGNMENT-2

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

Enter the Element 2: 66

Enter the Element 3: 4

Enter the Element 4: 22

Enter the Element 5: 1

Entered List is: [8, 66, 4, 22, 1]

Sorted List is: [1, 4, 8, 22, 66]

2nd Largest Number is: 22

10 Write a program to remove all the duplicate elements from list.

INPUT:

"""

10). Write a program to remove all the duplicate elements from list.

```
Name : Akshit Trivedi          Roll No.: 40
Class : MCA sem-1             Year     : 2021-22      Practical
Assignment-2
"""
lst=[]
n=int(input("How many elements you want to Enter: "))

for i in range(0,n):
    ele=int(input("Enter the Element {0}: ".format(i+1)))
    lst.append(ele)
lst.sort()
print("\nEnterd List is: ",lst)
list1=list(set(lst))
list1.sort()
print("\nThe List after removing all the duplicates: ",list1)
```

OUTPUT:

How many elements you want to Enter: 5

Enter the Element 1: 1

PYTHON ASSIGNMENT-2

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

Enter the Element 2: 2

Enter the Element 3: 1

Enter the Element 4: 3

Enter the Element 5: 5

Entered List is: [1, 1, 2, 3, 5]

The List after removing all the duplicates: [1, 2, 3, 5]

11 Write a Python program to find the list in a list of lists whose sum of elements is the highest.

INPUT:

"""

11). Write a Python program to find the list in a list of lists whose sum of elements is the highest.

```
Name : Akshit Trivedi          Roll No.: 40
Class : MCA sem-1             Year     : 2021-22      Practical
Assignment-2
"""
lst = [[10,20,30], [41,51,61], [50,60,70], [100,80,90]]
print("\nList is: ",lst)
print("\n\nList with Highest Sum of Elements is: ",max(lst, key=sum))
```

OUTPUT:

List is: [[10, 20, 30], [41, 51, 61], [50, 60, 70], [100, 80, 90]]

List with Highest Sum of Elements is: [100, 80, 90]

12 Write a Python program to concatenate following dictionaries to create a new one.

```
d1={1:100, 2:200}
d2={3:300, 4:400}
d3={5:500, 6:600}
```

INPUT:

"""

12. Write a Python program to concatenate following dictionaries to

PYTHON ASSIGNMENT-2

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

create a new one.

```
d1={1:100, 2:200}  
d2={3:300, 4:400}  
d3={5:500, 6:600}
```

Name : Akshit Trivedi

Roll No.: 40

Class : MCA sem-1

Year : 2021-22

Assignment-2

Practical

"""

```
d1={1:100, 2:200}  
d2={3:300, 4:400}  
d3={5:500, 6:600}  
d4={}
```

```
for ele in (d1,d2,d3):  
    d4.update(ele)
```

```
print("New Dictionary is: ",d4)
```

OUTPUT:

New Dictionary is: {1: 100, 2: 200, 3: 300, 4: 400, 5: 500, 6: 600}

13 Write a Python program to check if a given key already exists in a dictionary.

INPUT:

"""

13. Write a Python program to check if a given key already exists in a dictionary.

Name : Akshit Trivedi

Roll No.: 40

Class : MCA sem-1

Year : 2021-22

Assignment-2

Practical

"""

```
dict = {'akshit': 1, 'python':2, 'java':3}
```

```
enter_key= input("Enter Key : ")
```

```
if enter_key in dict:
```

```
    print("The Key is Present and the Value is:",dict[enter_key])
```

```
else:
```

PYTHON ASSIGNMENT-2

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

```
print("The Key is not Present")
```

OUTPUT:

Enter Key : akshit

The Key is Present and the Value is: 1

Enter Key : akki

The Key is not Present

14 Write a Python program to remove duplicate values from Dictionary.

INPUT:

"""

14. Write a Python program to remove duplicate values from Dictionary.

```
Name : Akshit Trivedi          Roll No.: 40
Class : MCA sem-1             Year    : 2021-22      Practical
Assignment-2
```

"""

```
my_dict = { 'a' : 10, 'b' : 15, 'c' : 20, 'd' : 10, 'e' : 20}
```

```
print("The Original Dictionary is : \n" + str(my_dict))
```

```
temp = []
new_dict={} #new_dict = dict()
for key, val in my_dict.items():
    if val not in temp:
        temp.append(val)
        new_dict[key] = val
```

```
print("The dictionary after removing duplicate values : \n" +
str(new_dict))
```

OUTPUT:

The Original Dictionary is :

```
{'a': 10, 'b': 15, 'c': 20, 'd': 10, 'e': 20}
```

The dictionary after removing duplicate values :

```
{'a': 10, 'b': 15, 'c': 20}
```

PYTHON ASSIGNMENT-2

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

15 Write a Python script to print a dictionary where the keys are numbers between 1 and 15 (both included) and the values are square of keys.

INPUT:

"""

15. Write a Python script to print a dictionary where the keys are numbers between 1 and 15 (both included) and the values are square of keys.

Name : Akshit Trivedi

Roll No.: 40

Class : MCA sem-1

Year : 2021-22

Practical

Assignment-2

"""

```
square_dict=dict()
for x in range(1,16):
    square_dict[x]=x**2      #  **for power
print("\nSquare Dictionary is:\n",square_dict)
```

OUTPUT:

Square Dictionary is:

{1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64, 9: 81, 10: 100, 11: 121, 12: 144, 13: 169, 14: 196, 15: 225}

16 Write a program to determine frequency of number in a list of numbers.

INPUT:

"""

16. Write a program to determine frequency of number in a list of numbers.

Name : Akshit Trivedi

Roll No.: 40

Class : MCA sem-1

Year : 2021-22

Practical

Assignment-2

"""

```
lst=[1,2,3,4,1,2,1,4,3,6,5,7,8,9,5,2,3,6,9,7,8,2,3,1,4,5,6,8]
print("\nList is:\n"+str(lst))
num=int(input("Enter the number : "))
print("The frequency of number ",num," is ",lst.count(num))
```

PYTHON ASSIGNMENT-2

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

OUTPUT:

List is:
[1, 2, 3, 4, 1, 2, 1, 4, 3, 6, 5, 7, 8, 9, 5, 2, 3, 6, 9, 7, 8, 2, 3, 1, 4, 5, 6, 8]

Enter the number : 9
The frequency of number 9 is 2

17 Write a program to determine frequency of number in a list of numbers.

INPUT:

"""
17. Write a program to determine frequency of number in a list of numbers.

```
Name  : Akshit Trivedi          Roll No.: 40
Class : MCA sem-1              Year    : 2021-22      Practical
Assignment-2
"""
def prime_interval(start, end):

    for num in range(start, end + 1):
        if num > 1:
            for i in range(2, num):
                if (num % i) == 0:
                    break
            else:
                print(num)

start=int(input("Range Start From : "))
end=int(input("Range End : "))

print("Prime numbers between", start, "and", end, "are:")
prime_interval(start,end)
```

OUTPUT:

Range Start From : 1

Range End : 10
Prime numbers between 1 and 10 are:
2

PYTHON ASSIGNMENT-2

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

3

5

7

18 Write a Python program to print all Armstrong numbers between given range using functions.

INPUT:

"""

18. Write a Python program to print all Armstrong numbers between given range using functions.

Name : Akshit Trivedi

Roll No.: 40

Class : MCA sem-1

Year : 2021-22

Practical

Assignment-2

"""

```
def armstrong_num(start, end):
    for num in range(start, end + 1):

        order = len(str(num))
        sum = 0
        temp = num

        while temp > 0:
            digit = temp % 10
            sum += digit ** order
            temp //= 10

        if num == sum:
            print(num)

start=int(input("Enter Starting Range : "))
end=int(input("Enter Ending Range : "))

print("\nArmstrong numbers between", start, "and", end, "are:")
armstrong_num(start,end)
```

OUTPUT:

Enter Starting Range : 100

Enter Ending Range : 1000

Armstrong numbers between 100 and 1000 are:

PYTHON ASSIGNMENT-2

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

153
370
371
407

19. Write a Python program to print all perfect numbers between given range using functions.

[perfect number is a positive integer that is equal to the sum of its positive divisor, excluding the number itself example 6 3+2+1= 6]

INPUT:

"""
19. Write a Python program to print all perfect numbers between given range using functions.

[perfect number is a positive integer that is equal to the sum of its positive divisor, excluding the number itself example 6 3+2+1= 6]

Name : Akshit Trivedi Roll No.: 40
Class : MCA sem-1 Year : 2021-22 Practical
Assignment-2
"""

```
start=int(input("Range Start From : "))  
end=int(input("Range End : "))  
  
def perfectnum():  
    for num in range(start,end+1):  
        sum=0  
  
        for x in range(1,num):  
            if num % x==0:                              #if divisible by x then store in  
sum  
            sum =sum + x  
  
        if (sum==num):  
            print(num, end=' ')  
  
print("Perfect numbers between %d and %d are:" %(start, end))  
perfectnum()
```

PYTHON ASSIGNMENT-2

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

OUTPUT:

Range Start From : 1

Range End : 100

Perfect numbers between 1 and 100 are:

6 28

20 Write a Python program to generate nth Fibonacci term using function.

INPUT:

"""

20. Write a Python program to generate nth Fibonacci term using function.

Name : Akshit Trivedi

Roll No.: 40

Class : MCA sem-1

Year : 2021-22

Practical

Assignment-2

"""

```
def recur_fibo(n):
```

```
    if n <= 1:
```

```
        return n
```

```
    else:
```

```
        return(recur_fibo(n-1) + recur_fibo(n-2))
```

```
nterms = int(input("Enter Number of Fibonnaci : "))
```

```
if nterms <= 0:
```

```
    print("Please enter a positive integer")
```

```
else:
```

```
    print("Fibonacci Series:")
```

```
    for i in range(nterms):
```

```
        print(recur_fibo(i),end=" ")
```

OUTPUT:

Enter Number of Fibonnaci : 5

Fibonacci Series:

0 1 1 2 3

PYTHON ASSIGNMENT-2

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

21 Write a python program to find twin prime numbers up to a range.

[ex 3,5 5,7 11,13 17,19 41,43] all are twin prime their number difference is 1

INPUT:

"""

21. Write a python program to find twin prime numbers up to a range.
[ex 3,5 5,7 11,13 17,19 41,43] all are twin prime their number
difference is 1

Name : Akshit Trivedi

Roll No.: 40

Class : MCA sem-1

Year : 2021-22

Practical

Assignment-2

"""

```
def is_prime(num):
```

```
    if num<2:
```

```
        return False
```

```
    for i in range(2,num):
```

```
        if num % i==0:
```

```
            return False
```

```
    return True
```

```
start=int(input("Start Range from : "))
```

```
end= int(input("End Range : "))
```

```
for i in range(start,end+1):
```

```
    if(is_prime(i) and is_prime(i+2)):
```

```
        print("%d,%d "%(i,i+2))
```

OUTPUT:

Start Range from : 1

End Range : 100

3,5

5,7

11,13

17,19

29,31

41,43

PYTHON ASSIGNMENT-2

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

59,61
71,73

22 Write a Python program to sort a list of tuples using Lambda.

Original list of tuple:-

[('English',88),('Science',90),('Maths',97),('Socialsciences',82)]

Resultant tuple:-

[('Socialsciences',82),('English',88),('Science',90),('Maths',97)]

INPUT:

"""
22. Write a Python program to sort a list of tuples using Lambda.

Original list of tuple:-

[('English',88),('Science',90),('Maths',97),('Socialsciences',82)]

Resultant tuple:-

[('Social sciences', 82), ('English', 88), ('Science', 90), ('Maths', 97)]

Name : Akshit Trivedi

Roll No.: 40

Class : MCA sem-1

Year : 2021-22

Practical

Assignment-2

"""
subject_marks = [('English', 88), ('Science', 90), ('Maths', 97), ('Social sciences', 82)]

print("Original list of tuples:")

print(subject_marks)

subject_marks.sort(key = lambda x: x[1])

print("\nSorting the List of Tuples:")

print(subject_marks)

OUTPUT:

Original list of tuples:

[('English', 88), ('Science', 90), ('Maths', 97), ('Social sciences', 82)]

Sorting the List of Tuples:

[('Social sciences', 82), ('English', 88), ('Science', 90), ('Maths', 97)]

PYTHON ASSIGNMENT-2

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

23. Write a Python program to filter a list of integers using Lambda

Original list of numbers:-

[1 , 2 , 3 , 4 , 5 , 6 , 7 , 8 , 9 , 10]

INPUT:

"""

23. Write a Python program to filter a list of integers using Lambda

Original list of numbers:-

[1 , 2 , 3 , 4 , 5 , 6 , 7 , 8 , 9 , 10]

Name : Akshit Trivedi

Roll No.: 40

Class : MCA sem-1

Year : 2021-22

Practical

Assignment-2

"""

nums = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

print("Original list of integers:")

print(nums)

print("\nEven numbers from list:")

even_nums = list(filter(lambda x: x%2 == 0, nums))

print(even_nums)

print("\nOdd numbers from list:")

odd_nums = list(filter(lambda x: x%2 != 0, nums))

print(odd_nums)

OUTPUT:

Original list of integers:

[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

Even numbers from list:

[2, 4, 6, 8, 10]

Odd numbers from list:

[1, 3, 5, 7, 9]

Rollwala Computer Center

**INTRODUCTION TO PYTHON
PROGRAMMING**

Assignment-3

Jan 24, 2022



Name: **Akshit Trivedi**

Roll No: **40**

Course: **Master of Computer Application**

Sem: **1st**

PYTHON ASSIGNMENT-3

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

1 Write a program to find maximum element from 1- Dimensional array.

INPUT:

"""

1. Write a program to find maximum element from 1-Dimensional array.

Name : Akshit Trivedi Roll No.: 40
Class : MCA sem-1 Year : 2021-22 Practical
Assignment-3

"""

```
import array as arr

num1 = arr.array('i',[])

size = int(input("Enter the size of Array: "))

for i in range(size):
    item = int(input("Enter the item: "))
    num1.append(item)

print("Array Entered by you are: ", end="")

maximum = num1[0]

for i in range(size):
    print(num1[i], end=" ")
    if num1[i] > maximum:
        maximum = num1[i]

print("\n\nThe maximum of the array is: ", maximum)
```

OUTPUT:

Enter the size of Array: 4

Enter the item: 10

Enter the item: 55

Enter the item: 75

PYTHON ASSIGNMENT-3

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

```
Enter the item: 95
Array Entered by you are: 10 55 75 95
The maximum of the array is: 95
```

2 Write a program to sort given array in ascending order.

INPUT:

"""

2. Write a program to sort given array in ascending order.

```
Name : Akshit Trivedi          Roll No.: 40
Class : MCA sem-1             Year     : 2021-22      Practical
Assignment-3
```

"""

```
import array as arr
```

```
def array_sort(a, size):
    for i in range(size):
        print(num1[i], end=" ")
```

```
num1 = arr.array('i',[])
```

```
size = int(input("Enter the size of array: "))
```

```
for i in range(size):
    item = int(input("Enter the item: "))
    num1.append(item)
```

```
print("Numbers Entered by you: ", end="")
array_sort(num1, size)
```

```
for i in range(size):
    min_index = i
    for j in range(i+1, size):
        if num1[min_index] > num1[j]:
            min_index = j
```

```
        num1[i], num1[min_index] = num1[min_index], num1[i]
```

PYTHON ASSIGNMENT-3

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

```
print("\nThe sorted array is: ", end="")
array_sort(num1, size)
```

OUTPUT:

Enter the size of array: 4

Enter the item: 9

Enter the item: 1

Enter the item: 40

Enter the item: 5

Numbers Entered by you: 9 1 40 5

The sorted array is: 1 5 9 40

3 Given the two 1-D arrays A and B, which are sorted in ascending order. Write a program to merge them into a single sorted array C that contains every item from arrays A and B, in ascending order.

INPUT:

"""

3. Given the two 1-D arrays A and B, which are sorted in ascending order. Write a program to merge

them into a single sorted array C that contains every item from arrays A and B, in ascending order.

Name : Akshit Trivedi

Roll No.: 40

Class : MCA sem-1

Year : 2021-22

Practical

Assignment-3

"""

```
import array as arr
```

```
def print_array(sort_arr):
    size = len(sort_arr)
    for i in range(size):
        print(sort_arr[i], end=" ")
```

```
num1 = arr.array('i', [1, 2 , 3, 4, 5])
```

PYTHON ASSIGNMENT-3

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

```
num2 = arr.array('i', [100, 200, 300 ,400 , 500])

merge = arr.array('i', [])

print("\nSorted Array 1: ", end="")
print_array(num1)
print("\nSorted Array 2: ", end="")
print_array(num2)

a=b=c=0

while b != len(num1) and c != len(num2):
    if num1[b] < num2[c]:
        merge.append(num1[b])
        b += 1
    else:
        merge.append(num2[c])
        c +=1
    a +=1

while b != len(num1):
    merge.append(num1[b])
    b += 1
    a += 1

while c != len(num2):
    merge.append(num2[c])
    c += 1
    a += 1

print("\nMerged Array: ", end="")
print_array(merge)
```

OUTPUT:

```
Sorted Array 1: 1 2 3 4 5
Sorted Array 2: 100 200 300 400 500
Merged Array: 1 2 3 4 5 100 200 300 400 500
The sorted array is: 1 5 9 40
```

PYTHON ASSIGNMENT-3

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

4 Write a program to add two matrices.

INPUT:

"""

4. Write a program to add two matrices.

```
Name : Akshit Trivedi          Roll No.: 40
Class : MCA sem-1             Year     : 2021-22      Practical
Assignment-3
"""

import numpy as np

rw = int(input("Enter the number of rows: "))
cl = int(input("Enter the number of column: "))
lst1 = []
lst2 = []

for i in range(0, rw*cl):
    item = int(input("Enter the item : "))
    lst1.append(item)

for i in range(0, rw*cl):
    item = int(input("Enter the item : "))
    lst2.append(item)

mat1 = np.array(lst1).reshape(rw,cl)
mat2 = np.array(lst2).reshape(rw,cl)
addition = np.empty([rw, cl], dtype=int)

for i in range(0, rw):
    for j in range(0, cl):
        addition[i][j] = mat1[i][j] + mat2[i][j]

print("\nMatrix Addition is: ")
for i in range(0, rw):
    for j in range(0, cl):
        print(mat1[i][j], end=" ")

    print(" ", end="")
    if i==0:
        print("+ ", end="")
    else:
        print(" ", end="")

    for j in range(0, cl):
        print(mat2[i][j], end=" ")
```

PYTHON ASSIGNMENT-3

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

```
print("    ", end="")  
  
if i==0:  
    print("=  ", end="")  
else:  
    print("    ", end="")  
  
for j in range(0, cl):  
    print(addition[i][j], end=" ")  
  
print()
```

OUTPUT:

Enter the number of rows: 2

Enter the number of column: 2

Enter the item : 2

Matrix Addition is:

2	2	+	2	2	=	4	4
2	2		2	2		4	4

PYTHON ASSIGNMENT-3

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

5 Write a program that reads in two matrices and multiply them. Display the resultant matrix.

INPUT:

"""

5. Write a program that reads in two matrices and multiply them.
Display the resultant matrix.

```
Name : Akshit Trivedi          Roll No.: 40
Class : MCA sem-1             Year     : 2021-22      Practical
Assignment-3
"""

import numpy as np

def matrix_mult(mat, rw):
    for i in range(rw):
        for j in range(rw):
            print(mat[i][j], end=" ")
    print()

cl = rw = int(input("Enter the number of rows and column: "))

lst1 = []
lst2 = []

for i in range(0, rw*cl):
    item = int(input("Enter Elements: "))
    lst1.append(item)

for i in range(0, rw*cl):
    item = int(input("Enter Elements: "))
    lst2.append(item)

mat1 = np.array(lst1).reshape(rw,cl)
mat2 = np.array(lst2).reshape(rw,cl)
mult = np.zeros([rw, cl], dtype=int)

for i in range(rw):
    for j in range(cl):
        for k in range(rw):
            mult[i][j] = mult[i][j] + (mat1[i][k] * mat2[k][j])

print("\nMatrix 1 is:")
matrix_mult(mat1, rw)
print("Matrix 2 is:")
```

PYTHON ASSIGNMENT-3

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

```
matrix_mult(mat2, rw)
print("\nMatrix 1 * matrix 2:")
matrix_mult(mult, rw)
```

OUTPUT:

Enter the number of rows and column: 2

Enter Elements: 1

Enter Elements: 2

Enter Elements: 3

Enter Elements: 4

Enter Elements: 5

Enter Elements: 6

Enter Elements: 7

Enter Elements: 8

Matrix 1 is:

1 2

3 4

Matrix 2 is:

5 6

7 8

Matrix 1 * matrix 2:

19 22

43 50

6 Write a program to sort given string array in ascending order.

INPUT:

"""

6. Write a program to sort given string array in ascending order.

Name : Akshit Trivedi
Class : MCA sem-1
Assignment-3

Roll No.: 40
Year : 2021-22 Practical

PYTHON ASSIGNMENT-3

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

```
"""
import numpy as np

length = int(input("Enter the length of array: "))
lst = []

for i in range(length):
    item = input("Enter the string: ")
    lst.append(item)

names = np.array(lst)

print("\nBefore sorting: ", end=" ")

for i in range(length):
    print(names[i], end=" ")

for i in range(length-1):
    small_index = i
    for j in range(i, length):
        if names[small_index].lower() > names[j].lower():
            small_index = j
    names[i], names[small_index] = names[small_index], names[i]

print("\nAfter sorting: ", end=" ")

for i in range(length):
    print(names[i], end=" ")
```

OUTPUT:

Enter the length of array: 4

Enter the string: Yash

Enter the string: Sijo

Enter the string: Akshit

Enter the string: Sagar

Before sorting: Yash Sijo Akshit Sagar

After sorting: Akshit Sagar Sijo Yash

PYTHON ASSIGNMENT-3

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

7 Write a program that will read a text and count all occurrences of a particular word.

INPUT:

"""

7. Write a program that will read a text and cnt all occurrences of a particular word.

```
Name : Akshit Trivedi          Roll No.: 40
Class : MCA sem-1             Year     : 2021-22      Practical
Assignment-3
"""
sentence = input("Enter the String: ")
find_word = input("Enter the Word to find: ")

split_str = sentence.split(" ")
cnt = 0

for i in range(len(split_str)):
    if find_word == split_str[i].lower():
        cnt += 1

print("\nWord",find_word,"repeated:",cnt,"Times.")
```

OUTPUT:

Enter the String: Welcome to the World of Python and in this World we will first write Hello World Program.

Enter the Word to find: world

Word world repeated: 3 Times.

8 Write a program that will read a string and rewrite it in the alphabetical order.

INPUT:

"""

8. Write a program that will read a string and rewrite it in the alphabetical order.

```
Name : Akshit Trivedi          Roll No.: 40
Class : MCA sem-1             Year     : 2021-22      Practical
Assignment-3
```

PYTHON ASSIGNMENT-3

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

"""

```
sentence = input("Enter the string: ")

lst = list(sentence)

for i in range(len(lst)-1):
    small_index = i
    for j in range(i+1, len(lst)):
        if lst[small_index].lower() > lst[j].lower():
            small_index = j
    lst[i], lst[small_index] = lst[small_index], lst[i]

alpha_str = "".join(lst)

print("\nString in Alphabetical Order: ",alpha_str)
```

OUTPUT:

```
Enter the string: my name is akshit trivedi

String in Alphabetical Order: aadeehiiikmmnrssttvy
```

9 Write a program that appends the one string to another string.

INPUT:

"""

9. Write a program that appends the one string to another string.

Name : Akshit Trivedi	Roll No.: 40
Class : MCA sem-1	Year : 2021-22
Assignment-3	Practical

"""

```
str1 = input("Enter String1: ")
str2 = input("Enter String2: ")

str3 = str1 + " " + str2

print("\nCombined String:",str3)
```

OUTPUT:

```
Enter String1: Akshit
```

PYTHON ASSIGNMENT-3

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

Enter String2: Trivedi

Combined String: Akshit Trivedi

10 Write a program that finds a given word in a string.

INPUT:

"""

10. Write a program that finds a given word in a string.

Name : Akshit Trivedi	Roll No.: 40
Class : MCA sem-1	Year : 2021-22
Assignment-3	Practical

"""

```
sentence = input("Enter the string: ")
find_word = input("Enter the word to find: ")

print("Index of word is: ",sentence.find(find_word))
```

OUTPUT:

Enter the string: My name is Akshit

Enter the word to find: is

Index of word is: 8

11 Write a program that search an item from array of string.

INPUT:

"""

11. Write a program that search an item from array of string.

Name : Akshit Trivedi	Roll No.: 40
Class : MCA sem-1	Year : 2021-22
Assignment-3	Practical

"""

```
import numpy as np
```

```
sentence = input("Enter the string: ")
find_str = input("Enter the item to find: ")
lst1 = sentence.split()

str_arr = np.array(lst1)
```

PYTHON ASSIGNMENT-3

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

```
status = False
for i in range(len(str_arr)):
    if str_arr[i] == find_str:
        print("Word", find_str, "Found and it's Position is:",i+1)
        status = True
        break

if status==False:
    print("Word", find_str, "Not Found!!!")
```

OUTPUT:

Enter the string: my name is akshit

Enter the item to find: akshit
Word akshit Found and it's Position is: 4

12 Write a program to read a matrix and determine the following :

- (1) wheather the given matrix is upper triangular or not**
- (2) wheather the given matrix is lower triangular or not**
- (3) wheather the given matrix is digonal matrix or not**

INPUT:

"""

12. Write a program to read a matrix and determine the following :
(1) wheather the given matrix is upper triangular or not
(2) wheather the given matrix is lower triangular or not
(3) wheather the given matrix is digonal matrix or not

Name : Akshit Trivedi
Class : MCA sem-1
Assignment-3

Roll No.: 40
Year : 2021-22 Practical

"""

```
import numpy as np
def matrix_print(mat, rc):
    for i in range(rc):
        for j in range(rc):
            print(mat[i][j], end=" ")
    print()
```

PYTHON ASSIGNMENT-3

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

```
def check_upper(mat, rc):
    for i in range(1, rc):
        for j in range(0, i):
            if mat[i][j] != 0:
                print("The Given matrix is not a upper triangular
matrix")
            return
    print("The given matrix is upper triangular matrix")

def check_lower(mat, rc):
    for i in range(0, rc):
        for j in range(i+1, rc):
            if mat[i][j] != 0:
                print("The given matrix is not a lower triangular
matrix")
            return
    print("The given matrix is lower triangular matrix")

def check_diagonal(mat, rc):
    for i in range(rc):
        for j in range(rc):
            if i!=j and mat[i][j] != 0:
                print("The given matrix is not a diagonal matrix")
                return
    print("The given matrix is diagonal matrix")

rc = int(input("Enter the number of rows and cols: "))
lst = []

for i in range(rc*rc):
    item = int(input("Enter Elements: "))
    lst.append(item)

mat1 = np.array(lst).reshape(rc, rc)

print("\nThe given matrix is: ")
matrix_print(mat1, rc)
check_upper(mat1, rc)
check_lower(mat1, rc)
check_diagonal(mat1, rc)
```

OUTPUT:

Enter the number of rows and cols: 3

PYTHON ASSIGNMENT-3

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

Enter Elements: 10

Enter Elements: 0

Enter Elements: 0

Enter Elements: 0

Enter Elements: 10

Enter Elements: 0

Enter Elements: 0

Enter Elements: 0

Enter Elements: 10

The given matrix is:

10 0 0

0 10 0

0 0 10

The given matrix is upper triangular matrix

The given matrix is lower triangular matrix

The given matrix is diagonal matrix

Rollwala Computer Center

**INTRODUCTION TO PYTHON
PROGRAMMING**
Assignment-4

Feb 20, 2022



Name: **Akshit Trivedi**

Roll No: **40**

Course: **Master of Computer Application**

Sem: **1ST**

PYTHON ASSIGNMENT-4

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

1 Write a program to create a file and input five person full name in file and read the information from file.

INPUT:

```
'''1. Write a program to create a file and input five person full name in file and read the information from file.
```

```
Name : Akshit Trivedi  
Roll No.: 40  
Class : MCA sem-1  
Practical Assignment 4
```

```
'''
```

```
try:  
    with open("1_person_name.txt", "w") as f:  
        for i in range(5):  
            name = input("Enter the name: ")  
            f.write(name + "\n")  
  
    print("Names are: ")  
    with open("1_person_name.txt", "r") as file:  
  
        for fline in file:  
            print(fline.rstrip("\n"))  
            print()  
  
except FileNotFoundError:  
    print("File not found!!!")  
  
except Exception as e:  
    print("Exception occurred: ",e)
```

OUTPUT:

```
Enter the name: Akshit Trivedi
```

```
Enter the name: Sijo Jose
```

```
Enter the name: Sagar Mer
```



PYTHON ASSIGNMENT-4

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

Enter the name: Yash Thanki

Enter the name: Dev Sharma

Names are:

Akshit Trivedi

Sijo Jose

Sagar Mer

Yash Thanki

Dev Sharma

2 Write a program to search a word in to the file. If word is found count number of occurrence and print total no of occurrence for that word.

INPUT:

```
'''2. Write a program to search a word in to the file. If word is found count  
number  
of occurrence and print total no of occurrence for that word.
```

Name : Akshit Trivedi

Roll No.: 40

Class : MCA sem-1

Practical Assignment 4

...

```
f=open("2_word_countv.txt","r")  
word=input("Enter the word to match: ")  
count=0
```



PYTHON ASSIGNMENT-4

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

```
for file1 in f:  
    w1=file1.split(" ")  
    for w in w1:  
        if(w.rstrip("\n")==word):  
            count+=1  
  
print("Total No of time", word, "occurred in file:", count)
```

OUTPUT:

Enter the word to match: is
Total No of time is occurred in file: 2

3 Write a program store each word from file and count how many time a particular word is in the file.

INPUT:

```
'''3 Write a program store each word from file and count how many time a particular word is in the file.
```

Name : Akshit Trivedi
Roll No.: 40
Class : MCA sem-1
Practical Assignment 4

...

```
try:  
    namedict = dict()  
  
    with open("2_word_count.txt", "r") as f:  
        for fileline in f:  
            words = fileline.split(" ")  
            for w in words:  
                w = w.rstrip("\n")  
                if w in namedict:  
                    namedict[w] = namedict[w] + 1  
                else:  
                    namedict[w] = 1  
  
        for word, count in namedict.items():  
            print(word, ":", count)
```



PYTHON ASSIGNMENT-4

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

```
except FileNotFoundError:  
    print("File not found!!!")  
  
except Exception as e:  
    print("Exception occurred: ",e)
```

OUTPUT:

```
My :1  
name :1  
is :2  
Akshit :1  
Trivedi. :1  
I :1  
am :1  
a :1  
student :1  
of :1  
MCA. :1  
This :1  
Python. :1
```

4 Write a program count no of lines, word and character in a file.

INPUT:

```
'''4. Write a program count no of lines, word and character in a file.
```

```
Name  : Akshit Trivedi  
Roll No.: 40  
Class : MCA sem-1  
Practical Assignment 4
```

```
'''
```

```
try:  
    with open("2_word_count.txt","r") as f:  
        lines=0  
        space=0  
        char=0  
        for line in f:
```



PYTHON ASSIGNMENT-4

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

```
lines += 1
for c in line:
    char += 1
    if c == " " or c=="\n" :
        space += 1

print("Line Count:",lines)
print("Word Count:",space+1)
print("Character count:",char)

except FileNotFoundError:
    print("File not found!!!")

except Exception as e:
    print("Exception occurred: ",e)
```

OUTPUT:

Line Count: 1
Word Count: 14
Character count: 65

5 Write a program fetch the binary information from the file and convert it in to the string so that you can perform all the operation of string on that information.

INPUT:

'''5. Write a program fetch the binary information from the file and convert it in to the string so that you can perform all the operation of string on that information.

Name : Akshit Trivedi
Roll No.: 40
Class : MCA sem-1
Practical Assignment 4

'''

```
try:
    with open("q5file.dat","rb") as f:
        str = f.read().decode()
```



PYTHON ASSIGNMENT-4

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

```
        print(str)
except FileNotFoundError:
    print("File not found!!!")

except Exception as e:
    print("Exception occurred: ",e)
```

OUTPUT:

My name is Akshit Trivedi
Python Programming

**6 Write a program to insert a student record in to the file with 5 subject marks.
Read student info from file and print the appropriate marksheet like: ID Name
SUB1Marks SUB1Marks.....Total Percentage Class.**

INPUT:

```
'''6. Write a program to insert a student record in to the file with 5
subject marks. Read student info
from file and print the appropriate marksheet like: ID Name SUB1Marks
SUB1Marks.....Total Percentage Class.
```

Name : Akshit Trivedi
Roll No.: 40
Class : MCA sem-1
Practical Assignment 4
'''

```
import pickle, sys

class Student:
    def __init__(self):
        pass

    def setDetails(self):
        self.roll = int(input("Enter Roll No: "))
        self.name = input("Enter your name: ")
        self.m1 = int(input("Enter Marks1: "))
        self.m2 = int(input("Enter Marks2: "))
        self.m3 = int(input("Enter Marks3: "))
        self.m4 = int(input("Enter Marks4: "))
```

PYTHON ASSIGNMENT-4

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

```
self.m5 = int(input("Enter Marks5: "))
self.tot = self.m1 + self.m2 + self.m3 + self.m4 + self.m5
self.per = (self.tot * 100)/500

def display(self):
    print("\t\t\t\tMarksheet")
    print("Roll: ", self.roll)
    print("Name: ", self.name)
    print("m1: ", self.m1)
    print("m2: ", self.m2)
    print("m3: ", self.m3)
    print("m4: ", self.m4)
    print("m5: ", self.m5)
    print("Total Marks: ", self.tot)
    print("Percentage: ", self.per)

try:

noofrec = int(input("Enter the number of records: "))
with open("q6.dat", "wb") as f:
    for i in range(noofrec):
        print()
        s = Student()
        s.setDetails()
        pickle.dump(s,f)

with open("q6.dat","rb") as f:
    for i in range(noofrec):
        obj=pickle.load(f)
        obj.display()
        print()

except FileNotFoundError:
    print("File not found!!!")

except Exception as e:
    print("Exception occurred: ",e)
```



PYTHON ASSIGNMENT-4

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

OUTPUT:

Enter the number of records: 3

Enter Roll No: 40

Enter your name: Akshit

Enter Marks1: 98

Enter Marks2: 95

Enter Marks3: 96

Enter Marks4: 97

Enter Marks5: 94

Enter Roll No: 16

Enter your name: Sijo

Enter Marks1: 99

Enter Marks2: 96

Enter Marks3: 93

Enter Marks4: 92

Enter Marks5: 97

Enter Roll No: 21

Enter your name: Sagar

Enter Marks1: 97

Enter Marks2: 95

PYTHON ASSIGNMENT-4

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

Enter Marks3: 96

Enter Marks4: 90

Enter Marks5: 99

Marksheet

Roll: 40

Name: Akshit

m1: 98

m2: 95

m3: 96

m4: 97

m5: 94

Total Marks: 480

Percentage: 96.0

Marksheet

Roll: 16

Name: Sijo

m1: 99

m2: 96

m3: 93

m4: 92

m5: 97

Total Marks: 477

Percentage: 95.4

Marksheet

Roll: 21

Name: Sagar

m1: 97

m2: 95

m3: 96

m4: 90

m5: 99

Total Marks: 477

Percentage: 95.4

PYTHON ASSIGNMENT-4

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

7 Write a program to insert employee record and read the data. Display the current position in file while reading the data.

INPUT:

```
'''7 Write a program to insert employee record and read the data. Display the
current position
in file while reading the data.
```

```
Name : Akshit Trivedi
Roll No.: 40
Class : MCA sem-1
Practical Assignment 4
```

```
'''
```

```
import pickle
```

```
class Employee:
    def __init__(self):
        pass

    def setDetails(self):
        self.id = int(input("Enter id: "))
        self.name = input("Enter name: ")

    def showDetails(self):
        print("\n\t\t\tEmployee Details")
        print("Id: ", self.id)
        print("Name: ", self.name)
```

```
try:
```

```
    noofrec = int(input("Enter the number of records: "))
    with open("q6.dat", "wb") as f:
        for i in range(noofrec):
            print()
            s = Employee()
            s.setDetails()
            pickle.dump(s,f)

    with open("q6.dat","rb") as f:
        for i in range(noofrec):
```

PYTHON ASSIGNMENT-4

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

```
obj=pickle.load(f)
obj.showDetails()
print("Current position: ", f.tell())
print()

except FileNotFoundError:
    print("File not found!!!")

except Exception as e:
    print("Exception occurred: ",e)
```

OUTPUT:

Enter the number of records: 4

Enter id: 40

Enter name: Akshit

Enter id: 16

Enter name: Sijo

Enter id: 21

Enter name: Sagar

Enter id: 45

Enter name: Yash

Employee Details

Id: 40
Name: Akshit
Current position: 69

PYTHON ASSIGNMENT-4

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

Employee Details

Id: 16
Name: Sijo
Current position: 136

Employee Details

Id: 21
Name: Sagar
Current position: 204

Employee Details

Id: 45
Name: Yash
Current position: 271

8 Write a program to insert employee record and read the data from 3rd record.

INPUT:

```
'''8. Write a program to insert employee record and read the data from 3rd record.
```

```
Name : Akshit Trivedi
Roll No.: 40
Class : MCA sem-1
Practical Assignment 4
```

```
'''
```

```
import pickle

class Employee:
    def __init__(self):
        pass

    def setDetails(self):
        self.id = int(input("Enter id: "))
        self.name = input("Enter name: ")
```

PYTHON ASSIGNMENT-4

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

```
def showDetails(self):
    print("\n\t\t\t\tEmployee Details")
    print("Id: ", self.id)
    print("Name: ", self.name)

try:
    noofrec = int(input("Enter the number of records: "))
    with open("q6.dat", "wb") as f:
        for i in range(noofrec):
            print()
            s = Employee()
            s.setDetails()
            pickle.dump(s,f)
            if(i==1):
                point = int(f.tell())

    with open("q6.dat","rb") as f:
        for i in range(0, 2):
            obj=pickle.load(f)

        for i in range(2, noofrec):
            obj=pickle.load(f)
            obj.showDetails()
            print()

except FileNotFoundError:
    print("File not found!!!")

except Exception as e:
    print("Exception occurred: ",e)
```

PYTHON ASSIGNMENT-4

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

OUTPUT:

Enter the number of records: 3

Enter id: 16

Enter name: Sijo

Enter id: 21

Enter name: Sagar

Enter id: 40

Enter name: Akshit

Employee Details

Id: 40

Name: Akshit

9 In program no 6 display information from file in descending order of percentage.

INPUT:

'''9. In program no 6 display information from file in descending order of percentage.

```
Name : Akshit Trivedi
Roll No.: 40
Class : MCA sem-1
Practical Assignment 4
'''
```

```
import pickle

class Student:
    def __init__(self):
        pass
```

PYTHON ASSIGNMENT-4

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

```
def setDetails(self):
    self.roll = int(input("Enter Roll No: "))
    self.name = input("Enter your name: ")
    self.m1 = int(input("Enter Marks1: "))
    self.m2 = int(input("Enter Marks2: "))
    self.m3 = int(input("Enter Marks3: "))
    self.m4 = int(input("Enter Marks4: "))
    self.m5 = int(input("Enter Marks5: "))
    self.tot = self.m1 + self.m2 + self.m3 + self.m4 + self.m5
    self.per = (self.tot * 100)/500

def display(self):
    print("\t\t\t\t\t\t\t\tMarksheet")
    print("Roll: ", self.roll)
    print("Name: ", self.name)
    print("m1: ", self.m1)
    print("m2: ", self.m2)
    print("m3: ", self.m3)
    print("m4: ", self.m4)
    print("m5: ", self.m5)
    print("Total Marks: ", self.tot)
    print("Percentage: ", self.per)

try:

    noofrec = int(input("Enter the number of records: "))
    with open("q6.dat", "wb") as f:
        for i in range(noofrec):
            print()
            s = Student()
            s.setDetails()
            pickle.dump(s,f)

    with open("q6.dat","rb") as f:
        for i in range(noofrec):
            obj=pickle.load(f)
            obj.display()
            print()

except FileNotFoundError:
    print("File not found!!!")
```

PYTHON ASSIGNMENT-4

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

```
except Exception as e:  
    print("Exception occurred: ",e)
```

OUTPUT:

Enter the number of records: 2

Enter Roll No: 40

Enter your name: Akshit

Enter Marks1: 98

Enter Marks2: 6

Enter Marks3: 90

Enter Marks4: 96

Enter Marks5: 91

Enter Roll No: 16

Enter your name: Sijo

Enter Marks1: 98

Enter Marks2: 91

Enter Marks3: 93

Enter Marks4: 92

Enter Marks5: 99

Marksheet

Roll: 40

Name: Akshit

m1: 98

m2: 6

m3: 90



PYTHON ASSIGNMENT-4

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

m4: 96
m5: 91
Total Marks: 381
Percentage: 76.2

Marksheet

Roll: 16
Name: Sijo
m1: 98
m2: 91
m3: 93
m4: 92
m5: 99
Total Marks: 473
Percentage: 94.6

10 Write a program to display all the line starting with the word entered by user from the file.

INPUT:

...

10. Write a program to display all the line starting with the word entered by user from the file.

```
Name : Akshit Trivedi
Roll No.: 40
Class : MCA sem-1
Practical Assignment 4
...
```

```
try:
    fname = input("Enter file name: ")
    word = input("Enter word to be searched: ")
    f = open(fname)
    for line in f:
        if line.startswith(word):
            print(line)
    f.close()

except FileNotFoundError:
    print("File not found!!!")
```

PYTHON ASSIGNMENT-4

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

```
except Exception as e:  
    print("Exception occurred: ",e)
```

OUTPUT:

Enter file name: 1_person_name.txt

Enter word to be searched: Akshit
Akshit Trivedi

Rollwala Computer Center

**INTRODUCTION TO PYTHON
PROGRAMMING**
Assignment-5

Feb 20, 2022



Name: **Akshit Trivedi**

Roll No: **40**

Course: **Master of Computer Application**

Sem: **1ST**

PYTHON ASSIGNMENT-5

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

1 Write a program to display student information like ID on x- axis and percentage on y-axis in the form of bar graph.

INPUT:

- '''
1. Write a program to display student information like ID on x-
axis and percentage on y-axis in the form of bar graph.

Name : Akshit Trivedi Roll No.: 40
Class : MCA sem-1 Year : 2021-22
'''

```
import matplotlib.pyplot as plt
import pandas as pd

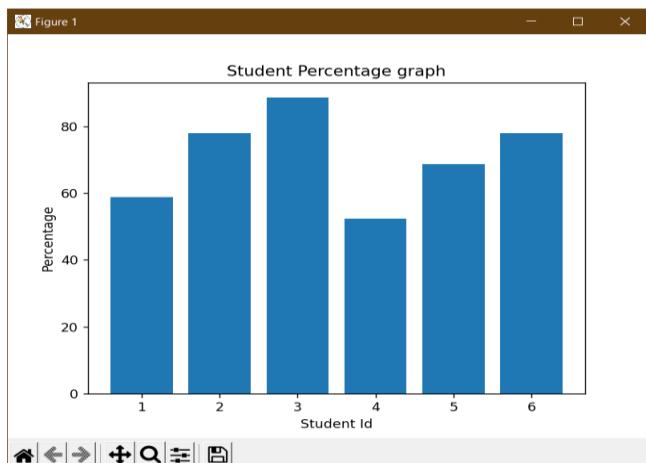
df = pd.read_csv("51_student.csv")
x = df["Id"]
y= df["Percentage"]

plt.bar(x, y)

plt.title("Student Percentage graph")
plt.xlabel("Student Id")
plt.ylabel("Percentage")

plt.show()
```

OUTPUT:



PYTHON ASSIGNMENT-5

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

2 Write a program to display student information like ID on x- axis and Age on y-axis in the form of line graph.

INPUT:

...

2. Write a program to display student information like ID on x- axis and Age on y-axis in the form of line graph.

Name : Akshit Trivedi Roll No.: 40
Class : MCA sem-1 Year : 2021-22
...

```
import matplotlib.pyplot as plt
import pandas as pd

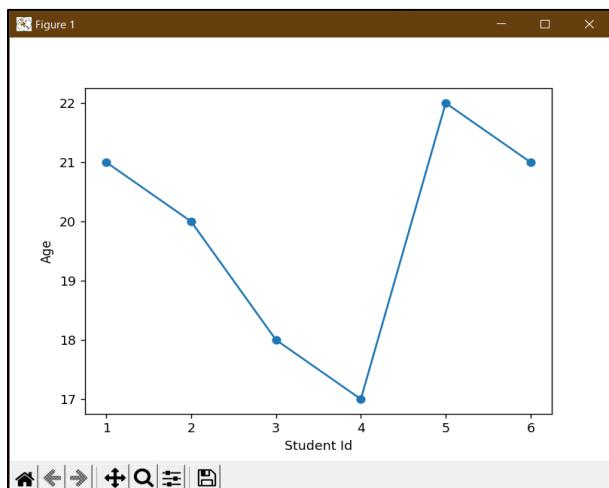
mer = pd.read_csv("student.csv")

x=mer["Id"]
y=mer["Age"]

plt.xlabel("Student Id")
plt.ylabel("Age")
plt.scatter(x,y)
plt.plot(x,y)

plt.show()
```

OUTPUT:



PYTHON ASSIGNMENT-5

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

3 Write a program to display employee information like ID on x-axis and salary on y-axis in the form of bar graph.

INPUT:

...

3. Write a program to display employee information like ID on x-axis and salary on y-axis in the form of bar graph.

Name : Akshit Trivedi Roll No.: 40
Class : MCA sem-1 Year : 2021-22
...

```
import matplotlib.pyplot as plt
import pandas as pd

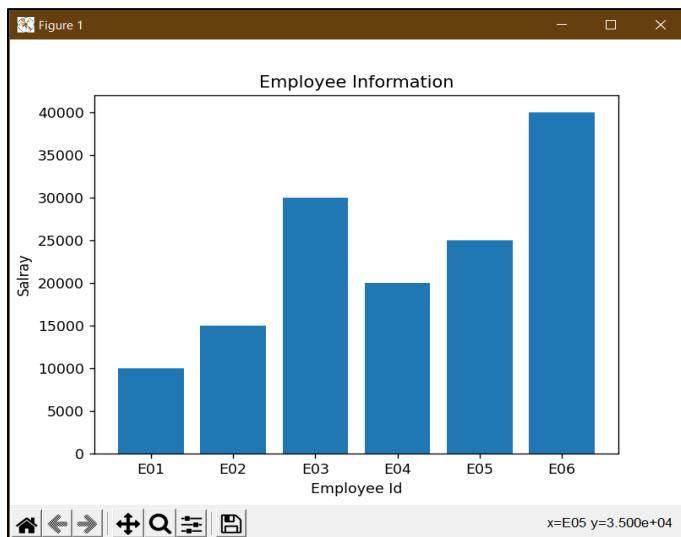
df = pd.read_csv("information.csv")

x= df[ "eid"]
y=df[ "salary"]

plt.title("Employee Information")
plt.xlabel("Employee Id")
plt.ylabel("Salary")
plt.bar(x,y)

plt.show()
```

OUTPUT:



PYTHON ASSIGNMENT-5

Roll No: 40

Class: MCA-1

Name: Akshit Trivedi

Year: 2021-22

4 Write a program to display employee information like ID on x-axis and salary on y-axis in the form of bar graph for two or more departments.

INPUT:

...

4. Write a program to display employee information like ID on x-axis and salary on y-axis in the form of bar graph for two or more departments.

Name : Akshit Trivedi Roll No.: 40

Class : MCA sem-1 Year : 2021-22

...

```
import matplotlib.pyplot as plt
import pandas as pd

df = pd.read_csv("information.csv")
# read data from csv

specified1 = df.loc[df['dept'] == 'MCA']
x1 = specified1['eid']
y1 = specified1['salary']

specified2 = df.loc[df['dept'] == 'MBA']
x2 = specified2['eid']
y2 = specified2['salary']

plt.xlabel("Employee Id")
plt.ylabel("Salary")
plt.bar(x1, y1,label = "MCA Department")
plt.bar(x2, y2,label = "MBA Department")
# plt.bar(x,y)

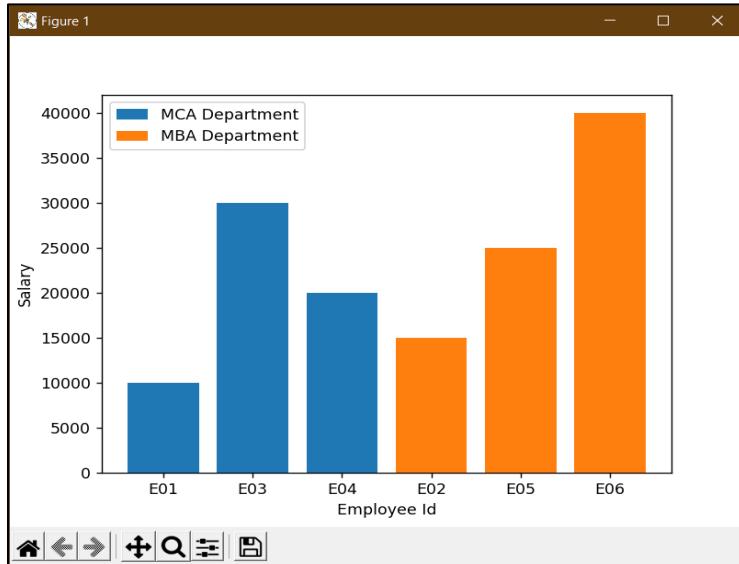
plt.legend()
plt.show()
```

PYTHON ASSIGNMENT-5

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

OUTPUT:



5 Write a program to create a line graph to show the profit of a Company in various years.

INPUT:

...

5. Write a program to create a line graph to show the profit of a company in various years.

Name : Akshit Trivedi Roll No.: 40
Class : MCA sem-1 Year : 2021-22
...

```
import matplotlib.pyplot as plt
import pandas as pd

df = pd.read_csv("TCS.csv")

x= df["Year"]
y=df["Profit"]

plt.title("Tata Consultancy & Services")
plt.xlabel("Years")
plt.ylabel("Profit in Crs.")
```

PYTHON ASSIGNMENT-5

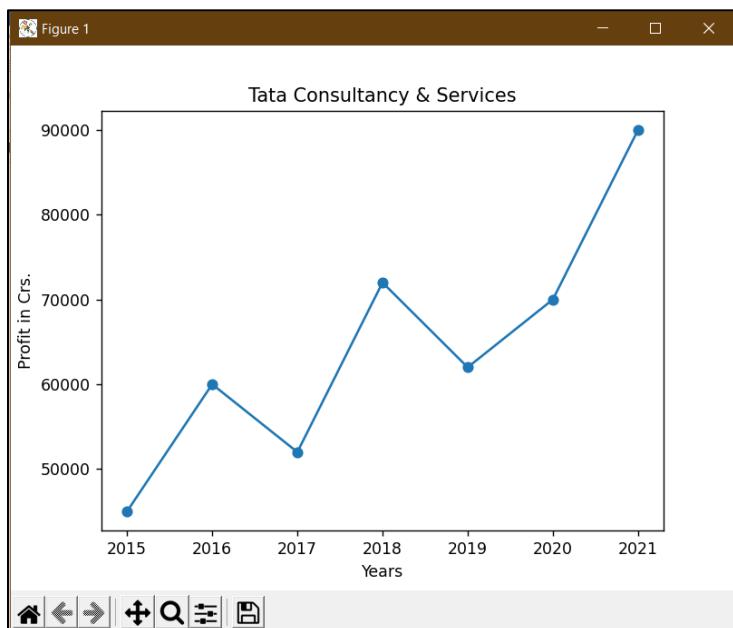
Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

```
plt.plot(x,y)
plt.scatter(x, y)

plt.show()
```

OUTPUT:



6 Write a program to sort given string array in ascending order Write a program to display student information of admission of last three using bar graph. You need to take last three year information for three programs like MCA, M.Tech and M.Sc.

INPUT:

...

6. Write a program to display student information of admission of last three using bar graph. You need to take last three year information for three programs like MCA, M.Tech and M.Sc.

Name : Akshit Trivedi Roll No.: 40
Class : MCA sem-1 Year : 2021-22
...

```
import matplotlib.pyplot as plt
```



PYTHON ASSIGNMENT-5

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

```
import pandas as pd

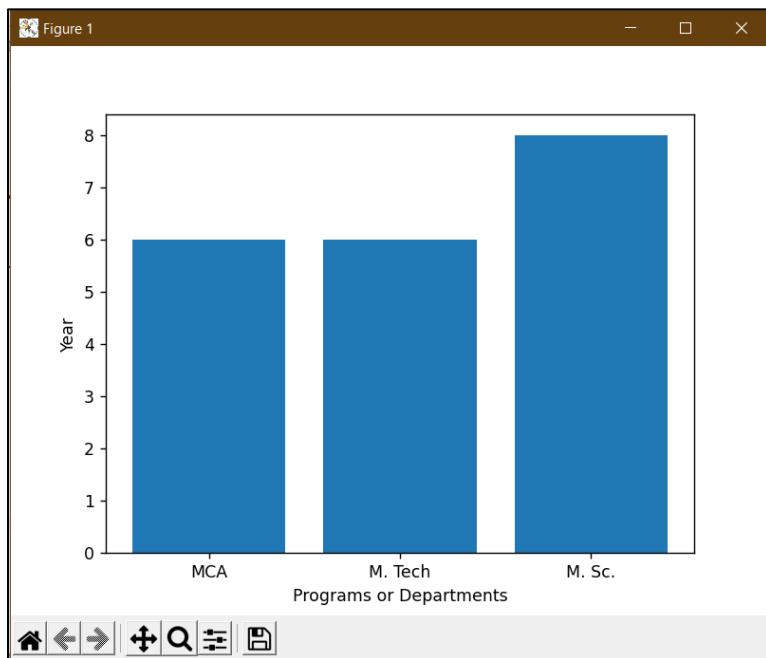
df = pd.read_csv("Student_program.csv")

x1 = df.Program.unique()
y1= df.groupby(['Program'])['Id'].count()

plt.xlabel("Programs or Departments")
plt.ylabel("Year")
plt.bar(x1,y1)

plt.show()
```

OUTPUT:

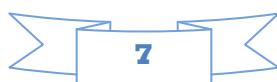


7 Write a program to display a pie chart for number of bank accounts opened by five various bank in last five days.

INPUT:

...

7. Write a program to display a pie chart for number of bank accounts opened by five various bank in last five days.



PYTHON ASSIGNMENT-5

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

Name : Akshit Trivedi Roll No.: 40
Class : MCA sem-1 Year : 2021-22
'''

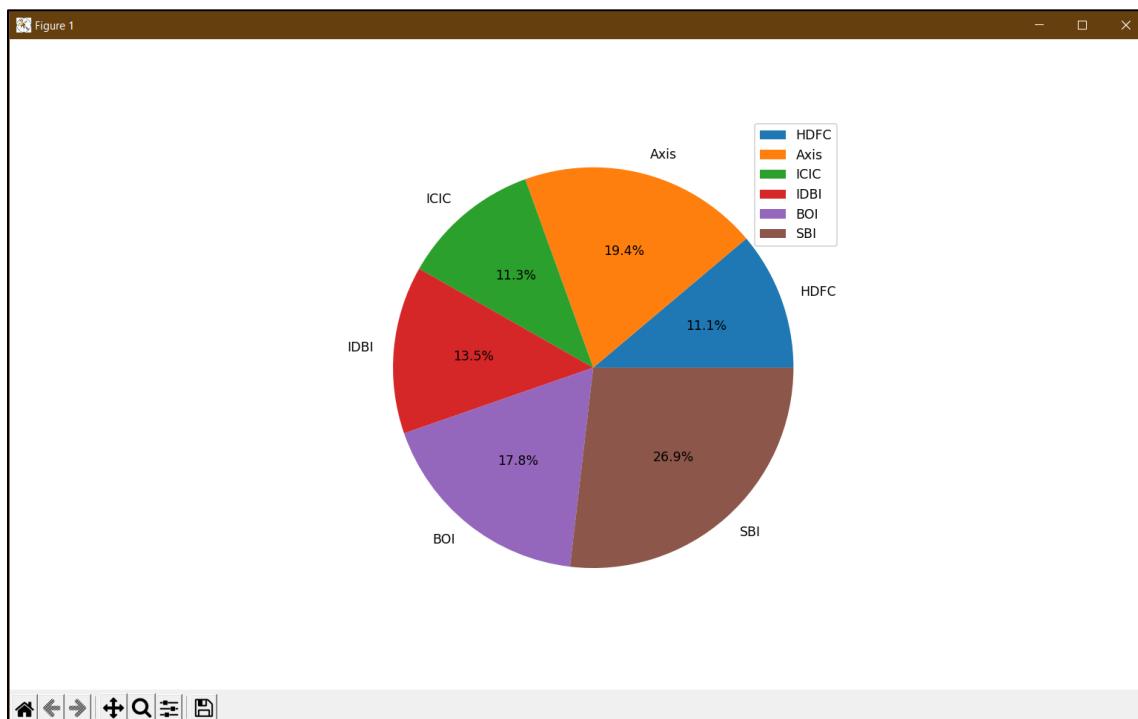
```
import matplotlib.pyplot as plt
import pandas as pd

mer = pd.read_csv("Bank.csv")

x=mer["Bank"]
y=mer["Account"]

plt.pie(y, labels = x, autopct = '%1.1f%%')
plt.legend()
plt.show()
```

OUTPUT:



PYTHON ASSIGNMENT-5

Roll No: 40
Class: MCA-1

Name: Akshit Trivedi
Year: 2021-22

**8 Write a program that will read a string and rewrite it in the alphabetical order
Write a program to display a pie chart for how many no of students take admission
in different four courses at department. Courses like : MCA, PGDCSA,
M.Sc.(AI&ML), M.Tech, etc.**

INPUT:

...

8. Write a program to display a pie chart for how many no of students take admission in different four courses at department. Courses like : MCA, PGDCSA, M.Sc.(AI&ML), M.Tech, etc.

Name : Akshit Trivedi Roll No.: 40
Class : MCA sem-1 Year : 2021-22
...

```
import matplotlib.pyplot as plt
import pandas as pd

df = pd.read_csv("addmision_student.csv")

x = df.Program.unique()
y= df.groupby(['Program'])['Id'].count()

plt.pie(y, labels = x)
plt.legend()
plt.show()
```

OUTPUT:

