PYTHON LAB

**CYCLE - 1**

***1. Display future leap years from the current year to a final year entered by the user.***

**CODE :**

current\_year=int(input("Enter the current year : "))

final\_year=int(input("Enter the Final year : "))

print("List of leap years")

for year in range (current\_year,final\_year):

if(year%4==0)and(year%100!=0)or(year%400==0):

print(year)

**OUTPUT:**

Enter the current year : 2022

Enter the Final year : 2030

List of leap years

2024

2028

***2. List comprehensions:***

***(a) Generate positive list of numbers from a given list of integers***

**CODE :**

list1=[]

list2=[]

n1=int(input("Enter the number of elements : "))

print("Enter the list pof integers")

for i in range (0,n1):

a=int(input())

list1.append(a)

print(list1)

print("The list of positive numbers")

for i in list1:

if(i>=0):

list2.append(i)

print(list2)

**OUTPUT:**

Enter the number of elements : 4

Enter the list pof integers

1

-1

0

'5

[1, -1, 0, 5]

The list of positive numbers

[1, 0, 5]

***(b) Square of N numbers***

**CODE :**

list1=[]

list2=[]

n1=int(input("Enter the number of elements : "))

print("Enter the list pof integers")

for i in range (0,n1):

a=int(input())

list1.append(a)

print("List of numbers")

print(list1)

print("Square of n numbers")

for square in list1:

square=square\*square

list2.append(square)

print(list2)

**OUTPUT:**

Enter the number of elements : 5

Enter the list pof integers

2

4

6

8

10

List of numbers

[2, 4, 6, 8, 10]

Square of n numbers

[4, 16, 36, 64, 100]

***(c) Form a list of vowels selected from a given word***

**CODE :**

word=input("Enter the word : ")

vowels=['a','e','i','o','u','A','E','I','o','u']

list=[]

for x in word:

if(x in vowels and x not in list):

list.append(x)

print("The vowels present in the word is : ",list)

**OUTPUT:**

Enter the word : Animal

The vowels present in the word is : ['A', 'i', 'a']

***(d) List ordinal value of each element of a word (Hint: use ord() to get ordinal values)***

**CODE :**

word=input("Enter the word : ")

list1=[]

list2=[]

for i in word:

list1.append(i)

for j in list1:

x=ord(j)

list2.append(x)

print("The ordinal values of the word is : ",list2)

**OUTPUT:**

Enter the word : sandhra

The ordinal values of the word is : [115, 97, 110, 100, 104, 114, 97]

***3. Count the occurrences of each word in a line of text.***

**CODE :**

def word\_count(str):

counts=dict()

words=str.split()

for word in words:

if word in counts:

counts[word]+=1

else:

counts[word]=1

return counts

a=input("Enter the Words : ")

print(word\_count(a))

**OUTPUT:**

Enter the Words : red bulb blue bulb

{'red': 1, 'bulb': 2, 'blue’: 1}

***4. Prompt the user for a list of integers. For all values greater than 100, store ‘over’ instead***

**CODE :**

lmt=int(input("Enter the limit of integers : "))

list=[]

print("Enter the integers ")

for i in range (lmt):

n=int(input())

if(n>100):

list.append("Over")

else:

list.append(n)

print(list)

**OUTPUT:**

Enter the limit of integers : 5

Enter the integers

1

200

101

100

5

[1, 'Over', 'Over', 100, 5]

***5. Store a list of first names. Count the occurrences of ‘a’ within the list***

**CODE :**

n1=int(input("Enter the limit : "))

list=[]

print("Enter the names ")

for i in range (0,n1):

f=input()

list.append(f)

print("Entered names are ")

print(list)

sum=0

for i in list:

sum=sum+i.count("a")

print("the count of a is : ",sum)

**OUTPUT:**

Enter the limit : 3

Enter the names

adam

kiyara

anoop

Entered names are

['adam', 'kiyara', 'anoop']

the count of a is : 5

***6.Enter 2 lists of integers. Check (a) Whether list are of same length (b) whether list sums to same value (c) whether any value occur in both***

**CODE :**

lst1 = []

lst2 = []

lst1 = [(item) for item in input("Enter the list1 items separated by space: ").split()]

lst2 = [item for item in input("Enter the list2 items separated by space: ").split()]

sum1=str(0)

sum2=str(0)

if len(lst1)==len(lst2) :

print(" Both list are of equal length")

else:

print("Two list have unequal length")

for x in lst1:

sum1=sum1+x

for x in lst2:

sum2=sum2+x

if sum1==sum2:

a="equal"

else:

a="not equal"

print("Sum of two list are",a)

for x in lst1:

for y in lst2:

if x==y:

print(y,"Occurs in both list")

**OUTPUT:**

Enter the list1 items separated by space: 1 2 3

Enter the list2 items separated by space: 3 4 5

Both list are of equal length

Sum of two list are not equal

3 Occurs in both list

***7.Get a string from an input string where all occurrences of the first character are replaced with ‘$’, except the first character. [eg: onion -> oni$n]***

**CODE :**

def change\_char(str1):

char=str1[0]

str1=str1.replace(char,'$')

str1=char+str1[1:]

return str1

a=input("Enter the string ")

print(change\_char(a))

**OUTPUT:**

Enter the string onion

oni$n

**8.Create a string from a given string where first and last characters are exchanged.**

**CODE :**

string=input(**"**Enter a string **"**)  
new\_str=string[-1]+string[1:-1]+string[0]  
print(new\_str)

**OUTPUT:**

Enter a string teacher

reachet

***9.Accept the radius from the user and find the area of the circle.***

**CODE :**

from math import pi

r=float(input("Enter the radius "))

calculate\_Area=str(pi\*r\*\*2)

print("The radius of the circle "+str(r)+" is"+calculate\_Area)

**OUTPUT:**

Enter the radius 2

The radius of the circle 2.0 is12.566370614359172

***10. Find the biggest of 3 numbers entered.***

**CODE :**

num1 = float(input("Enter first number: "))

num2 = float(input("Enter second number: "))

num3 = float(input("Enter third number: "))

if (num1 > num2) and (num1 > num3):

largest = num1

elif (num2 > num1) and (num2 > num3):

largest = num2

else:

largest = num3

print("The largest number is", largest)

**OUTPUT:**

Enter first number: 10

Enter second number: 20

Enter third number: 15

The largest number is 20.0

***11.Accept a file name from user and print extension of that.***

**CODE :**

filename = input("Input the Filename: ")

f\_extns = filename.split(".")

print ("The extension of the file is : " + repr(f\_extns[-1]))

**OUTPUT:**

Input the Filename: a.txt

The extension of the file is : 'txt'

***12.Create a list of colors from comma-separated color names entered by the user. Display first and last colors.***

**CODE :**

list=[]

n=int(input("enter number of element in the list:"))

print("enter colors of the list")

for i in range(0,n):

a=input()

list.append(a)

print("list is:",list)

print("first color in the list is:",list[0])

print("last color in the list is:",list[-1])

**OUTPUT:**

enter number of element in the list:3

enter colors of the list

red

black

blue

list is: ['red', 'black', 'blue']

first color in the list is: red

last color in the list is: blue

***13.Accept an integer n and compute n+nn+nnn.***

**CODE :**

n=int(input("Enter a number :"))

value=n+n\*n+n\*n\*n

print("value of n+nn+nnn is =",value)

**OUTPUT:**

Enter a number :5

value of n+nn+nnn is = 155

***14.Print out all colors from color-list1 not contained in color-list2.***

**CODE :**

**l**ist1=[]

n1=int(input("enter number of elements in list 1:"))

print("enter colors")

for i in range(0,n1):

a=input()

list1.append(a)

print(list1)

list2=[]

n2=int(input("enter number of elements in list 2:"))

print("enter colors")

for i in range(0,n2):

b=input()

list2.append(b)

print(list2)

**OUTPUT:**

enter number of elements in list 1:2

enter colors

red

black

['red', 'black']

enter number of elements in list 2:2

enter colors

red

yellow

['red', 'yellow']

***15.Create a single string separated with space from two strings by swapping the character at position 1.***

**CODE :**

def chars\_mix\_up(a, b):

new\_a = b[:1] + a[1:]

new\_b = a[:1] + b[1:]

return new\_a + ' ' + new\_b

a=input("Enter the string1 ")

b=input("Enter the string2 ")

print(chars\_mix\_up(a,b))

**OUTPUT:**

Enter the string1 sms

Enter the string2 text

tms sext

***16.Sort the dictionary in ascending and descending order.***

**CODE :**

y={'carl':40,'alan':2,'bob':1,'danny':3}

l=list(y.items())

l.sort()

print("Ascending order is",l)

l=list(y.items())

l.sort(reverse=True)

print("Descending order is",l)

dict=dict(l)

print("Dictionary",dict)

**OUTPUT:**

Ascending order is [('alan', 2), ('bob', 1), ('carl', 40), ('danny', 3)]

Descending order is [('danny', 3), ('carl', 40), ('bob', 1), ('alan', 2)]

Dictionary {'danny': 3, 'carl': 40, 'bob': 1, 'alan': 2}

***17.Merge two dictionaries.***

**CODE :**

d1={}

n1=int(input("enter limit in 1st dictionary"))

print("enter dictionary value")

for i in range(0,n1):

key=input("key:")

value=input("values:")

d1.update({key:value})

d2={}

n2=int(input("enter limit in 1st dictionary"))

print("enter dictionary value")

for i in range(0,n2):

key=input("key:")

value=input("values:")

d2.update({key:value})

print("first dictionary:",d1)

print("second dictionary:",d2)

d3={}

for i in (d1,d2):

d3.update(i)

print("merged dictionary is",d3)

**OUTPUT:**

enter limit in 1st dictionary2

enter dictionary value

key:a

values:3

key:b

values:5

enter limit in 1st dictionary2

enter dictionary value

key:c

values:2

key:d

values:4

first dictionary: {'a': '3', 'b': '5'}

second dictionary: {'c': '2', 'd': '4'}

merged dictionary is {'a': '3', 'b': '5', 'c': '2', 'd': '4'}

***18.Find gcd of 2 numbers.***

**CODE :**

def gcd\_fun (x, y):

if (y == 0):

return x

else:

return gcd\_fun (y, x % y)

x =int (input ("Enter the first number: "))

y =int (input ("Enter the second number: "))

num = gcd\_fun(x, y)

print("GCD of two number is: ")

print(num)

**OUTPUT:**

Enter the first number: 60

Enter the second number: 48

GCD of two number is:

12

***19.From a list of integers, create a list removing even numbers.***

**CODE :**

list1=[]

n1=int(input("Enter the number of elements"))

print("Enter integers")

for i in range(0,n1):

a=int(input())

list1.append(a)

print("List of after removing even numbers")

for i in list1:

if(i%2==0):

list1.remove(i)

print(list1)

**OUTPUT:**

Enter the number of elements5

Enter integers

11

22

33

44

55

List of after removing even numbers

[11, 33, 55]

**CYCLE - 2**

***1.Program to find the factorial of a number***

**CODE:**

num = int(input("Enter a number: "))

factorial = 1

if num < 0:

print(" Factorial does not exist for negative numbers")

elif num == 0:

print("The factorial of 0 is 1")

else:

for i in range(1,num + 1):

factorial = factorial\*i

print("The factorial of",num,"is",factorial)

**OUTPUT:**

Enter a number: 8

The factorial of 8 is 40320

***2.Generate Fibonacci series of N terms***

**CODE:**

n = int(input("Enter the value of 'n': "))

a = 0

b = 1

sum = 0

count = 1

print("Fibonacci Series: ", end = " ")

while(count <= n):

print(sum, end = " ")

count += 1

a = b

b = sum

sum = a + b

**OUTPUT:**

Enter the value of 'n': 9

Fibonacci Series: 0 1 1 2 3 5 8 13 21

***3.Find the sum of all items in a list.***

**CODE:**

list = []

number = int(input('How many numbers: '))

print('Enter number ')

for n in range(number):

numbers = int(input())

list.append(numbers)

print("Sum of elements in given list is :", sum(list))

**OUTPUT:**

How many numbers: 5

Enter number

1

2

3

4

5

Sum of elements in given list is : 15

***4.Generate a list of four digit numbers in a given range with all their digits even and the number is a perfect square****.*

**CODE:**

print("Enter the range of numbers")

n1=int(input("Starting range : "))

n2=int(input("Ending : "))

for i in range(n1,n2):

for j in range(32,100):

if i==j\*j:

string=str(i)

if int(string[0])%2==0 and int(string[1])%2==0 and int(string[2])%2==0 and int(string[3])%2==0:

print(i)

**OUTPUT:**

Enter the range of numbers

Starting range : 3674

Ending : 9999

4624

6084

6400

8464

***5.Display the given pyramid with step number accepted from user.***

***Eg: N=4***

***1***

***2 4***

***3 6 9***

***4 8 12 16***

**CODE:**

n=int(input("Enter the number of rows of pyramid : "))

for i in range(1,n+1):

for j in range(1,i+1):

s=i\*j

print(s,end=' ')

print()

**OUTPUT:**

Enter the number of rows of pyramid : 4

1

2 4

3 6 9

4 8 12 16

***6.Count the number of characters (character frequency) in a string***

**CODE:**

def char\_freq(str):

dict = {}

for n in str:

keys = dict.keys()

if n in keys:

dict[n]=dict[n]+1

else:

dict[n]=1

return dict

a=input("Enter the string : ")

print(char\_freq(a))

**OUTPUT:**

Enter the string : malayalam

{'m': 2, 'a': 4, 'l': 2, 'y': 1}

***7.Add ‘ing’ at the end of a given string. If it already ends with ‘ing’, then add ‘ly’***

**CODE:**

def add\_string(str1):

if str1[-3:] == 'ing':

str1 += 'ly'

else:

str1 += 'ing'

return str1

print("Enter the string")

a=input()

print(add\_string(a))

**OUTPUT:**

Enter the string

increase

increasing

Enter the string

increasing

Increasingly

***8.Accept a list of words and return the length of the longest word.***

**CODE:**

def longestlength(a):

max1=len(a[0])

temp=a[0]

for i in a:

if(len(i)>max1):

max1=len(i)

temp=i

print("The word with the longest length is: ", temp)

print("And its length is ",max1)

a=[]

n1=int(input("Enter the no of elemnts in the word list "))

print("Enter the list of words")

for i in range (n1):

words=input()

a.append(words)

longestlength(a)

**OUTPUT:**

Enter the no of elemnts in the word list 5

Enter the list of words

sanup

sandhra

roshni

riya

pushpa

The word with the longest length is: sandhra

And its length is 7

***9.Construct following pattern using nested loop.***

***\****

***\* \****

***\* \* \****

***\* \* \* \****

***\* \* \* \* \****

***\* \* \* \****

***\* \* \****

***\* \****

***\****

**CODE:**

n=int(input("Enter the number "))

for i in range(n):

for j in range(i):

print ('\* ', end="")

print('')

for i in range(n,0,-1):

for j in range(i):

print('\* ', end="")

print('')

**OUTPUT:**

Enter the number 5

\*

\* \*

\* \* \*

\* \* \* \*

\* \* \* \* \*

\* \* \* \*

\* \* \*

\* \*

\*

***10.Generate all factors of a number.***

**CODE:**

def print\_factors(x):

print("The factors of",x,"are:")

for i in range(1, x + 1):

if x % i == 0:

print(i)

num = int(input("Enter the number "))

print\_factors(num)

**OUTPUT:**

Enter the number 45

The factors of 45 are:

1

3

5

9

15

45

***11. Write lambda functions to find the area of square, rectangle and triangle.***

**CODE:**

import math

print("Area of square")

a=int(input("Enter the side: "))

s\_area=lambda a:a\*a

print("Area of square is : ",s\_area(a))

print()

print("Area of rectangle")

b=int(input("Enter the length:"))

c=int(input("Enter the height:"))

r\_area=lambda len,ht:len\*ht

print("Area of rectangle is : ",r\_area(b,c))

print()

print("Area of triangle")

d=int(input("Enter the base:"))

e=int(input("Enter the height:"))

t\_area=lambda b,h:.5\*b\*h

print("Area of triangle is : ",t\_area(d,e))

**OUTPUT:**

Area of square

Enter the side: 2

Area of square is : 4

Area of rectangle

Enter the length:3

Enter the height:4

Area of rectangle is : 12

Area of triangle

Enter the base:5

Enter the height:6

Area of triangle is : 15.0

**CYCLE - 3**

***1.Work with built-in packages.***

**CODE:**

import math

print("Square root of 25 is",math.sqrt(25))

print("The value of pi is",math.pi)

print("The degree of 5 is",math.degrees(5))

print("The radians of 60 is",math.radians(60))

print("The value of sin 2 is ",math.sin(2))

print("The value of cos 0.5 is",math.cos(0.5))

print("The value of tan 0.23 is ",math.tan(0.23))

print("Factorial of 4 is ",math.factorial(4))

import random

print(random.randint(0, 5))

print(random.random())

print(random.random() \* 100)

List = [1, 4, True, 800, "python", 27, "hello"]

print(random.choice(List))

import datetime

from datetime import date

import time

print(time.time())

print(date.fromtimestamp(454554))

**OUTPUT:**

Square root of 25 is 5.0

The value of pi is 3.141592653589793

The degree of 5 is 286.4788975654116

The radians of 60 1.0471975511965976

The value of sin 2 is 0.9092974268256817

The value of cos 0.5 is 0.8775825618903728

The value of tan 0.23 is 0.23414336235146527

Factorial of 4 is 24

3

0.29041220329503803

92.76491574887591

4

1671514420.134528

1970-01-06

***2.Create a package graphics with modules: rectangle, circle and sub-package 3D-graphics with modules cuboid and sphere. Include methods to find area and perimeter of respective figures in each module. Write programs that find the area and perimeter of figures by different importing statements. (Include selective import of modules and import \* statements)***

**CODE:**

from graphics import circle,rectangle

from graphics.dgraphics import cuboid,sphere

r = int(input("Enter the radius of circle:"))

circle.areac(r)

circle.peric(r)

l = int(input("Enter the length of rectangle:"))

b = int(input("Enter the breadth of rectangle:"))

rectangle.arear(l , b)

rectangle.perir(l , b)

l1 = int(input("Enter the length of cuboid:"))

b1 = int(input("Enter the breadth of cuboid:"))

h1 = int(input("Enter the height of cuboid:"))

cuboid.areacub(l1,b1,h1)

cuboid.pericub(l1,b1,h1)

r1 = int(input("Enter the radius of sphere:"))

sphere.areas(r1)

sphere.peris(r1)

circle.py

def areac(r):

a = 3.14\*r\*r

print("Area of Circle is:",a)

def peric(r):

p = 2\*3.14\*r

print("Perimeter of Circle is:",p)

rectangle.py

def arear(l, b):

a = l \* b

print("Area of Rectangle is:", a)

def perir(l, b):

p = 2 \* (l + b)

print("Perimeter of Rectangle is:", p)

sphere.py

def areas(r):

a = 4\*3.14\*r\*r

print("Area of Sphere is:", a)

def peris(r):

p = 6.2832\*r

print("Perimeter of Sphere is:", p)

cuboid.py

def areacub(l,b,h):

a = 2\*((l\*b) + (b\*h) + (h\*l))

print("Area of Cuboid is:", a)

def pericub(l,b,h):

p = 4\*(l+b+h)

print("Perimeter of Cuboid is:", p)

**OUTPUT:**

Enter the radius of circle:2

Area of Circle is: 12.56

Perimeter of Circle is: 12.56

Enter the length of rectangle:2

Enter the breadth of rectangle:3

Area of Rectangle is: 6

Perimeter of Rectangle is: 10

Enter the length of cuboid:4

Enter the breadth of cuboid:5

Enter the height of cuboid:7

Area of Cuboid is: 166

Perimeter of Cuboid is: 64

Enter the radius of sphere:2

Area of Sphere is: 50.24

Perimeter of Sphere is: 12.5664

**CYCLE - 4**

***1.Create Rectangle class with attributes length and breadth and methods to find area and perimeter. Compare two Rectangle objects by their area.***

**CODE:**

class Rectangle1:

def \_\_init\_\_(self, length, breadth):

self.length = length

self.breadth = breadth

def area1(self):

return self.length \* self.breadth

a = int(input("Enter length of 1st rectangle: "))

b = int(input("Enter breadth of 1st rectangle: "))

r1= Rectangle1(a,b)

print("Area of 1st rectangle:", r1.area1())

class Rectangle2:

def \_\_init\_\_(self, length, breadth):

self.length = length

self.breadth = breadth

def area2(self):

return self.length \* self.breadth

c= int(input("Enter length of 2nd rectangle: "))

d = int(input("Enter breadth of 2nd rectangle: "))

r2 = Rectangle2(c,d)

print("Area of 2nd rectangle:", r2.area2())

if (r1.area1()==r2.area2()):

print(" Both rectangles are of same area")

elif (r1.area1()>r2.area2()):

print(" 1st rectangle large")

else:

print(" 2nd rectangle large")

**OUTPUT:**

Enter length of 1st rectangle: 2

Enter breadth of 1st rectangle: 3

Area of 1st rectangle: 6

Enter length of 2nd rectangle: 4

Enter breadth of 2nd rectangle: 5

Area of 2nd rectangle: 20

2nd rectangle large

***2. Create a Bank account with members account number, name, type of account and balance. Write constructor and methods to deposit at the bank and withdraw an amount from the bank.***

**CODE:**

class Bank\_Account:

def \_\_init\_\_(self):

self.balance =856758 print("HellpythonProject4

print("Hello!!!")

print("Welcome to banking")

print("You Can Deposit & Withdraw Your Amount")

print("")

print("Account Number:10500980400865")

print("Account Holder:Saji Sebastian")

print("Account Type:Savings")

print("Balance:856758")

print("")

def deposit(self):

amount = float(input("Enter amount to be Deposited: "))

self.balance+= amount

print("\n Amount Deposited:", amount)

print("")

def withdraw(self):

amount = float(input("Enter amount to be Withdrawn: "))

if self.balance >= amount:

self.balance -= amount

print("\n You Withdrew:", amount)

else:

print("\n Insufficient balance ")

print("")

def display(self):

print("\n Net Available Balance=", self.balance)

print("")

s = Bank\_Account()

s.deposit()

s.display()

s.withdraw()

s.display()

**OUTPUT:**

Hello!!!

Welcome to banking

You Can Deposit & Withdraw Your Amount

Account Number:10500980400865

Account Holder:Saji Sebastian

Account Type:Savings

Balance:856758

Enter amount to be Deposited: 2000

Amount Deposited: 2000.0

Net Available Balance= 858758.0

Enter amount to be Withdrawn: 500

You Withdrew: 500.0

Net Available Balance= 858258.0

***3. Create a class Rectangle with private attributes length and width. Overload ‘<’ operator to compare the area of 2 rectangles.***

**CODE:**

class Rectangle:

def \_\_init\_\_(self, l,b):

self.l = l

self.b = b

def cal\_area(self):

self.area=self.l \* self.b

print('Area : ',self.area)

def \_\_lt\_\_(self, second):

if self.area < second.area:

return True

else:

return False

print('Enter length and breadth of rectangle 1:')

l1,b1=int(input()),int(input())

print('Enter length and breadth of rectangle 2:')

l2,b2=int(input()),int(input())

print('rectangle 1 area:')

r = Rectangle(l1,b1)

r.cal\_area()

print('rectangle 2 area:')

r2 = Rectangle(l2,b2)

r2.cal\_area()

if r < r2:

print("\nRectangle two is large")

else:

print("Rectangle one is large or these are equal")

**OUTPUT:**

Enter length and breadth of rectangle 1:

2

2

Enter length and breadth of rectangle 2:

3

2

rectangle 1 area:

Area : 4

rectangle 2 area:

Area : 6

Rectangle two is large

Process finished with exit code 0

***4.Create a class Time with private attributes hour, minute and second. Overload ‘+’ operator to find sum of 2 times.***

**CODE:**

class Time:

def \_\_init\_\_(self, h, m, s):

self.\_h1 = h

self.\_m1 = m

self.\_s1 = s

def \_\_add\_\_(self, x):

sum1 = self.\_h1 + x.\_h1

sum2 = self.\_m1 + x.\_m1

sum3 = self.\_s1 + x.\_s1

if sum3 >= 60:

sum3 = sum3 - 60

sum2 =sum2 + 1

if sum2 >= 60:

sum2 = sum2 - 60

sum1 = sum1 + 1

print(sum1, ":", sum2,":", sum3);

print("TIME 1")

h1 = int(input("Enter the hour in time1:"))

m1 = int(input("Enter the minute in time1:"))

s1 = int(input("Enter the second in time1:"))

obj1 = Time(h1, m1, s1)

print("TIME 2")

h2 = int(input("Enter the hour in time2:"))

m2 = int(input("Enter the minute in time2:"))

s2 = int(input("Enter the second in time2:"))

obj2 = Time(h2, m2, s2)

print("The sum of both time are:")

obj1 + obj2

**OUTPUT:**

TIME 1

Enter the hour in time1: 1

Enter the minute in time1:22

Enter the second in time1:33

TIME 2

Enter the hour in time2:1

Enter the minute in time2:22

Enter the second in time2:44

The sum of both time are:

2 : 45 : 17

Process finished with exit code 0

***5.Create a class Publisher (name). Derive class Book from Publisher with attributes title and author. Derive class Python from Book with attributes price and no\_of\_pages. Write a program that displays information about a Python book. Use base class constructor invocation and method overriding***

**CODE:**

class Publisher:

def read(self):

print("Books")

class Book(Publisher):

def title(self):

print("title : *Python Crash Course: A Hands-On, Project-Based Introduction to Programming*")

def author(self):

print("Author : Eric Matthes")

class Python(Book):

def price(self):

print("Price : 2429/-")

def pages(self):

print("Pages : 544")

p=Python()

p.read()

p.title()

p.author()

p.price()

p.pages()

**OUTPUT:**

Books

Title : *Python Crash Course: A Hands-On, Project-Based Introduction to Programming*

Author : Eric Matthes

Price : 2429/-

Pages : 544

**CYCLE - 5**

***1.Write a Python program to read a file line by line and store it into a list.***

**CODE:**

with open("one.txt") as f:

content\_list = f.readlines()

content\_list = [x.strip() for x in content\_list]

print(content\_list)

one.txt

Hello

Welcome to Sjcet

Here begins the journey!

**OUTPUT:**

['Hello', 'Welcome to Sjcet', 'Here begins the journey!']

***2.Python program to copy odd lines of one file to other***

**CODE:**

fn = open('text1.txt', 'r')

fn1 = open('text2.txt', 'w')

cont = fn.readlines()

type(cont)

for i in range(0, len(cont)):

if (i % 2 == 0):

fn1.write(cont[i])

else:

pass

fn1.close()

fn1 = open('text2.txt', 'r')

cont1 = fn1.read()

print(cont1)

fn.close()

fn1.close()

'text1.txt'

Sandhra Maria Saji

Nooranainckal house

Rajakumari S P o

Rajakumari

Idukki

pin : 685619

ph : 6238519298

**OUTPUT:**

Sandhra Maria Saji

Rajakumari S P o

Idukki

ph : 6238519298

***3.Write a Python program to read each row from a given csv file and print a list of strings.***

**CODE:**

import csv

with open('three.csv', 'r') as file:

reader = csv.reader(file)

for row in reader:

print(row)

'three.csv'

SN,NAME,BG,AGE

1,Pushpa,B+ve,32

2,Riya,O+ve,21

3,Roshni,B+ve,21

4,Sandhra,B+ve,22

5,Sanup,O+ve,21

**OUTPUT:**

['SN', 'NAME', 'BG', 'AGE']

['1', 'Pushpa', 'B+ve', '32']

['2', 'Riya', 'O+ve', '21']

['3', 'Roshni', 'B+ve', '21']

['4', 'Sandhra', 'B+ve', '22']

['5', 'Sanup', 'O+ve', '21']

***4.Write a Python program to read specific columns of a given CSV file and print the content of the columns.***

**CODE:**

import csv

with open('three.csv')as csvfile:

data = csv.DictReader(csvfile)

print("Details")

print("---------------------------------")

for row in data:

print(row['NAME'],row['AGE'])

**OUTPUT:**

Details

---------------------------------

Pushpa 32

Riya 21

Roshni 21

Sandhra 22

Sanup 21

***5.Write a Python program to write a Python dictionary to a csv file. After writing the CSV file, read the CSV file and display the content.***

**CODE:**

import csv

field\_name = ['No', 'Company', 'Car Model']

car = [{'No': 1,'Company':'Ferrari','Car Model':'GH'},

{'No': 2,'Company':'BMW','Car Model':'X5'},

{'No': 3,'Company':'Maruti Suzuki','Car Model': 'Swift'},

{'No': 4,'Company':'Audi', 'Car Model':'RS7'},

{'No': 5,'Company':'Toyota', 'Car Model':'Fortuner'}]

with open('b.csv', 'w') as csvfile:

write = csv.DictWriter(csvfile, fieldnames=field\_name)

write.writeheader()

write.writerows(car)

with open('b.csv', newline='') as csvfile:

d = csv.reader(csvfile, delimiter='|')

for r in d:

print(','.join(r))

**OUTPUT:**

b.csv

No,Company,Car Model

1,Ferrari,GH

2,BMW,X5

3,Maruti Suzuki,Swift

4,Audi,RS7

5,Toyota,Fortuner

No,Company,Car Model

1,Ferrari,GH

2,BMW,X5

3,Maruti Suzuki,Swift

4,Audi,RS7

5,Toyota,Fortuner