FEDERAL INSTITUTE OF SCIENCE AND TECHNOLOGY (FISAT)™

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FOCUS ON EXCELLENCE

20MCA131 PROGRAMMING LAB LABORATORY RECORD

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FEDERAL INSTITUTE OF SCIENCE AND TECHNOLOGY (FISAT)™

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CERTIFICATE

This is to certify that this is a Bonafede record of the Practical work done by ***BIVINA M V*** **(FIT21MCA2045)** *in the* ***20MCA131 PROGRAMMING LAB*** *Laboratory towards the partial fulfilment for the award of the Master Of Computer Applications during the academic year 2021-2022.*

Signature of Staff in Charge

Name:

Signature of H O D

Name:

Date of University practical examination ……

Signature of
Internal Examiner

Signature of
External Examiner

CONTENT

Course Outcome 1 Programs

PROGRAM 1

AIM

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

PROGRAM

```
print("leap year from current year")
startyear=int(input("Enter the startyear:"))
endyear=int(input("Enter the endyear:"))
print("list of the leap years:")
for year in range (startyear,endyear):
        if (0 == year % 4) and (0 != year % 100) or (0 == year % 400):
                print(year)
```

OUTPUT

```
c=int(input("Enter the current year:"))
f=int(input("Enter the year limit:"))
i=c
print("The leap years are")
while i<=f:
  if (i%4)==0 and i%100!=0 or i%400==0:
      print(i)
  i=i+1
```

```
Enter the current year:2022
Enter the year limit:2050
The leap years are
2024
2028
2032
2036
2040
2044
2048
```

PROGRAM 2(a)

AIM

List comprehensions:

Generate positive list of numbers from a given list of integers

PROGRAM

```
list=[1,4,-5,6,3,90,-9]
print("Positive list of numbers")
positive=[i for i in list if i>=0]
print(positive)
```

OUTPUT

```
list=[1,4,-5,6,3,90,-9]
print("Positive list of numbers")
positive=[i for i in list if i>=0]
print(positive)
```

```
Positive list of numbers
[1, 4, 6, 3, 90]
```

PROGRAM 2(b)

AIM

Square of N numbers

PROGRAM

```
n=int(input("Enter the limit:"))
i=1
while i<=n:
    squ=(i*i)
    print(i,"*",i,"=",squ)
    i=i+1
```

OUTPUT

```
n=int(input("Enter the limit:"))
i=1
while i<=n:
  squ=(i*i)
  print(i,"*",i,"=",squ)
  i=i+1
```

```
Enter the limit:4
1 * 1 = 1
2 * 2 = 4
3 * 3 = 9
4 * 4 = 16
```

PROGRAM 2(c)

AIM

Form a list of vowels selected from a given word

PROGRAM

```
word=input("Enter the word:")
vo=[]
vowels=['a','e','i','o','u','A','E','I','O','U']
vo=[i for i in word if i in vowels and i not in vo]
print(vo)
```

OUTPUT

```
word=input("Enter the word:")
vowels=['a','e','i','o','u','A','E','I','O','U']
vo=[]
vo=[i for i in word if i in vowels and i not in vo]
print(vo)
```

```
Enter the word:hello
['e', 'o']
```

PROGRAM 2(d)

AIM

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

PROGRAM

```
s=input("Enter the string:") print("Ordinal value")
for i in s:
        print(i,"=",ord(i))
```

OUTPUT

```
s=input("Enter the string:")
print("Ordinal value")
for i in s:
   print(i,"=",ord(i))
```

```
Enter the string:hello
Ordinal value
h = 104
e = 101
l = 108
l = 108
o = 111
```

PROGRAM 3

AIM

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

PROGRAM

```
s=input("Enter a string:")
count=dict()
w=s.split()
for i in w:
  if i not in count:
    count[i]=1
  else:
    count[i]+=1
print(count)
```

OUTPUT

```
Enter a string:hello world hello
{'hello': 2, 'world': 1}
```

PROGRAM 4

AIM

Prompt the user for a list of integers. For all values greater than 100, store 'over' instead.

PROGRAM

```
n=int(input("Enter the limit:"))
print("Enter the elements:")
a=[] for i in range(0,n):
x=int(input())
  a.append(x)
  odd= ['over' if i>100 else i for i in a]          print(odd)
```

OUTPUT

```
n=int(input("Enter the limit:"))
print("Enter the elements:")
a=[]
for i in range(0,n):
  x=int(input())
  a.append(x)
  odd=['over' if i>100 else i for i in a]
print(odd)
```

```
Enter the limit:3
Enter the elements:
100
102
98
[100, 'over', 98]
```

PROGRAM 5

AIM

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

PROGRAM

```
list1=['apple','orange','mango']
s=0
for i in list1:
  x=i.count('a')
  s=s+x
print("The number of a's in the list:",s)
```

OUTPUT

```
list1=['apple','orange','mango']
s=0
for i in list1:
  x=i.count('a')
  s=s+x
print("The number of a's in the list:",s)
```

```
The number of a's in the list: 3
```

PROGRAM 6

AIM

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

PROGRAM (a)

```
first=[1,3,6,9,10]
second=[2,4,7,8,]
x=len(first)
y=len(second)
if x==y:
  print("The list are of same length")
else:
  print("The lists are not of same length")
```

OUTPUT

```
first=[1,3,6,9,10]
second=[2,4,7,8,]
x=len(first)
y=len(second)
if x==y:
  print("The list are of same length")
else:
  print("The lists are not of same length")
```

```
The lists are not of same length
```

PROGRAM (b)

```
first=[3,5,7,9]
second=[4,6,6,8]
sum1=0
sum2=0
i=0
j=0
for i in first:
  sum1=sum1+i
  i=i+1
for j in second:
  sum2=sum2+j
  j=j+1
if sum1==sum2:
  print("The sum is same.")
else:
  print("The sum is not same.")
```

OUTPUT

```
first=[3,5,7,9]
second=[4,6,6,8]
sum1=0
sum2=0
i=0
j=0
for i in first:
  sum1=sum1+i
  i=i+1
for j in second:
  sum2=sum2+j
  j=j+1
if sum1==sum2:
  print("The sum is same.")
else:
  print("The sum is not same.")
```

```
The sum is same.
```

PROGRAM (c)

```
first=[1,2,5,7,8]
second=[2,1,8,8,7]
i=0 j=0
for i in first:   for
j in second:     if
i==j:
    print("Values occur in both.")
break
```

OUTPUT

Values occur in both.

PROGRAM 7

AIM

Get a string from an input string where all occurrences of first character replaced with

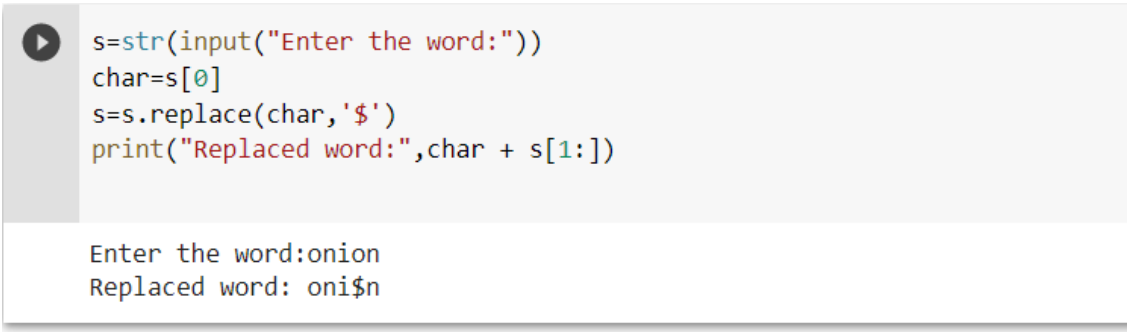
‘$’, except first character.

[eg: onion -> oni$n]

PROGRAM

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

OUTPUT



PROGRAM 8

AIM

Create a string from given string where first and last characters exchanged. [eg: python -> nythop]

PROGRAM

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

start=s[0]

end=s[-1]

new=end+s[1:-1]+start

print(new)
```

OUTPUT

```
s=input("Enter the string:")
start=s[0]
end=s[-1]
new=end+s[1:-1]+start
print(new)
```

```
Enter the string:python
nythop
```

PROGRAM 9

AIM

Accept the radius from user and find area of circle.

PROGRAM

```
r=int(input("Enter the radius:"))
area=3.14*r*r
print("Area is:",area)
```

OUTPUT

```
r=int(input("Enter the radius:"))
area=3.14*r*r
print("Area is:",area)

Enter the radius:4
Area is: 50.24
```

PROGRAM 10

AIM

Find biggest of 3 numbers entered.

PROGRAM

```
a=int(input("Enter 1st number:"))
b=int(input("Enter 2nd number:"))
c=int(input("Enter 3rd number:"))
if a>b and a>c:
  print("The large no is",a)
elif b>c:
  print("The largest number is",b)
else:
  print("The largest number is",c)
```

OUTPUT

```
Enter 1st number:12
Enter 2nd number:15
Enter 3rd number:13
The largest number is 15
```

PROGRAM 11

AIM

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

PROGRAM

```
name= input("Enter the file name: ")
extension = name.split(".")
print ("Extension of the file is : " + extension[-1])
```

OUTPUT

```
name= input("Enter the file name: ")
extension = name.split(".")
print ("Extension of the file is : " + extension[-1])
```

```
Enter the file name: python.pdf
Extension of the file is : pdf
```

PROGRAM 12

AIM

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

PROGRAM

```
color=input("Enter the colors:")
seperate=color.split(",") print("First
color:",seperate[0]) print("Last
color:",seperate[-1])
```

OUTPUT

```
color=input("Enter the colors:")
seperate=color.split(",")
print("First color:",seperate[0])
print("Last color:",seperate[-1])
```

```
Enter the colors:red,green,blue,yellow
First color: red
Last color: yellow
```

PROGRAM 13

AIM

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

PROGRAM

```
n=int(input("Enter the number:"))
n=n+(n*n)+(n*n*n)
print("The result is",n)
```

OUTPUT

```
n=int(input("Enter the number:"))
n=n+(n*n)+(n*n*n)
print("The result is",n)
```

```
Enter the number:3
The result is 39
```

PROGRAM 14

AIM

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

PROGRAM

```
c1=['rose','pink','brown','black']
c2=['white','yellow','rose']
c3=set(c1).difference(c2)
print(c3)
```

OUTPUT

```
c1=['rose','pink','brown','black']
c2=['white','yellow','rose']
c3=set(c1).difference(c2)
print(c3)

{'pink', 'brown', 'black'}
```

PROGRAM 15

AIM

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

PROGRAM

```
s1=input("Enter the first string:")
s2=input("Enter the second string:")
x=s1[0]
y=s2[0]
print("Swapped string:",y+s1[1:]+' '+x+s2[1:])
```

OUTPUT

```
s1=input("Enter the first string:")
s2=input("Enter the second string:")
x=s1[0]
y=s2[0]
print("Swapped string:",y+s1[1:]+' '+x+s2[1:])
```

```
Enter the first string:hello
Enter the second string:world
Swapped string: wello horld
```

PROGRAM 16

AIM

Sort dictionary in ascending and descending order.

PROGRAM

```
dic={'e':3,'b':5,'c':8,'d':1,'t':4,'f':7}
print("Dictionary in ascending order:",sorted(dic.items()))
print("Dictionary in descending order:",sorted(dic.items(),reverse=True))
```

OUTPUT

```
dic={'e':3,'b':5,'c':8,'d':1,'t':4,'f':7}
print("Dictionary in ascending order:",sorted(dic.items()))
print("Dictionary in descending order:",sorted(dic.items(),reverse=True))

Dictionary in ascending order: [('b', 5), ('c', 8), ('d', 1), ('e', 3), ('f', 7), ('t', 4)]
Dictionary in descending order: [('t', 4), ('f', 7), ('e', 3), ('d', 1), ('c', 8), ('b', 5)]
```

PROGRAM 17

AIM

Merge two dictionaries.

PROGRAM

```
dic1={'e':3,'b':5,'c':8,1:1,'t':4,'f':7}
dic2={'hi':'hello',300:3000}
d3={**dic1,**dic2} print("Merged
dictionary is",d3)
```

OUTPUT

```
dic1={'e':3,'b':5,'c':8,1:1,'t':4,'f':7}
dic2={'hi':'hello',300:3000}
d3={**dic1,**dic2}
print("Merged dictionary is",d3)
```

```
Merged dictionary is {'e': 3, 'b': 5, 'c': 8, 1: 1, 't': 4, 'f': 7, 'hi': 'hello', 300: 3000}
```

PROGRAM 18

AIM

Find GCD of 2 numbers.

PROGRAM

```
x=int(input("Enter 1st number:"))
y=int(input("Enter 2nd number:"))
for i in range(1,x+1):
  if (x%i==0 and y%i==0):
      gcd=i
print("GCD=",gcd)
```

OUTPUT

```
x=int(input("Enter 1st number:"))
y=int(input("Enter 2nd number:"))
for i in range(1,x+1):
  if (x%i==0 and y%i==0):
      gcd=i
print("GCD=",gcd)
```

```
Enter 1st number:24
Enter 2nd number:6
GCD= 6
```

PROGRAM 19

AIM

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

PROGRAM

```
list=[4,6,23,56,89,67,45,2,8,90]
print("List of odd numbers.") odd=[i
for i in list if i%2!=0] print(odd)
```

OUTPUT

```
list=[4,6,23,56,89,67,45,2,8,90]
print("List of odd numbers.")
odd=[i for i in list if i%2!=0]
print(odd)
```

```
List of odd numbers.
[23, 89, 67, 45]
```

Course Outcome 2 Programs

PROGRAM 20

AIM

Program to find the factorial of a number.

PROGRAM

```
n=input("enter number")
num=int(n)
fact=1
for i in range (1, num+1) :
        fact=fact*i
print("factorial is : " , fact)
```

OUTPUT

```
stud@debian:~/bivina/python$ python3 factorial.py
enter number5
factorial is :  120
stud@debian:~/bivina/python$
```

PROGRAM 21

AIM

Generate Fibonacci series of N terms.

PROGRAM

```
n=input("enter
range")
a=0
b=1
num=int(n)
print(a,"\n",b)
for i in range
(2,num):
c=a+b
print(c)
a=b
b=c
```

OUTPUT

```
stud@debian:~/bivina/python$ python3 factorial.py
enter number5
factorial is :  120
stud@debian:~/bivina/python$ python3 fibonacci.py
enter range8
0
 1
1
2
3
5
8
13
stud@debian:~/bivina/python$
```

PROGRAM 22

AIM

Find the sum of all items in a list.

PROGRAM

```
 n=int(input("Enter the limit:"))
print("Enter the elements:")
a=[]
sum=0
for i in range(0,n):
  x=int(input())
  a.append(x)
  sum=sum+x
print("List is",a)
print("The sum of numbers is",sum)
```

OUTPUT

```
Enter the limit:4
Enter the elements:
1
3
5
6
List is [1, 3, 5, 6]
The sum of numbers is 15
```

PROGRAM 23

AIM

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

PROGRAM

```
limit1=1000
limit2=9999
list1=[]
for i in range(limit1,limit2):
j=i
digit=[]
while(i!=0):
        digit.append(i%10)
        i=int(i/10)
count=0
for n in digit:
        if n%2==0:
                count=count+1
if count==4:
        for k in range(31,100):
                if((k**2)==j):
                        list1.append(j)
                        print(k)
print(list1)
```

OUTPUT

```
stud@debian:~/bivina/python$ python3 co2q4.py
68
78
80
92
[4624, 6084, 6400, 8464]
stud@debian:~/bivina/python$
```

PROGRAM 24

AIM

Display the given pyramid with step number accepted from user.

Eg: N=4

1

2 4

3 6 9

4 8 12 16

PROGRAM

```
n=int(input('enter the number of steps'))
for i in range(1,n+1):
    for j in range(1,i+1):
        s=i*j
        print(s,'\t',end="")
    print("\n")
```

OUTPUT

```
stud@debian:~/bivina/python$ python3 co2que5.py
enter the number of steps5
1

2       4

3       6       9

4       8       12      16

5       10      15      20      25

stud@debian:~/bivina/python$
```

PROGRAM 25

AIM

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

PROGRAM

```
str=input("Enter a string:")
fnd=input("Enter character:")
cnt=0
fnd=fnd.lower()
str=str.lower()
for i in str:
 if i==fnd:
  cnt=cnt+1
print("Freq:->",cnt)
```

OUTPUT

```
stud@debian:~/bivina/python$ python3 c02q6.py
Enter a string:hello
Enter character:e
Freq:-> 1
stud@debian:~/bivina/python$
```

PROGRAM 26

AIM

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

PROGRAM

```
a=input("Enter a word\n")
l=len(a)
ll=a[l-3:l]
if(ll=="ing"):
    s=a+"ly"
else:
    s=a+"ing"
print (s)
```

OUTPUT

```
stud@debian:~/bivina/python$ python3 ing.py
Enter a word
wear
wearing
stud@debian:~/bivina/python$ python3 ing.py
Enter a word
hearing
hearingly
stud@debian:~/bivina/python$
```

PROGRAM 27

AIM

Accept a list of words and return length of longest word.

PROGRAM

```
list=[]
length=[]
print("enter 5 words")
for i in range (5):
        str=input()
        list.append(str)
for j in list:
        length.append(len(j))
print("length of longest word is:",max(length))
```

OUTPUT

```
stud@debian:~/bivina/python$ python3 c02que8.py
enter 5 words
hello
world
hi
python
programming
length of longest word is: 11
stud@debian:~/bivina/python$
```

PROGRAM 28

AIM

Construct following pattern using nested loop

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

PROGRAM

```
for i in range(1,6):
    for j in range(1,i+1):
        print("*",end="")
    print("\n")
for i in range(5,0,-1):
    for j in range(1,i-1):
        print("*",end="")
    print("\n")
```

```
stud@debian:~/bivina/python$ python3 co2que9.py
*

**

***

****

*****

***

**

*
```

PROGRAM 29

AIM

Generate all factors of a number.

PROGRAM

```
def print_factors(x):
print("the factors of",x,"are:\n")
for i in range(2,int(x/2)+1):
if x%i==0:
        print(i)

num=20
print("number is",num)
print_factors(num)
```

OUTPUT

```
stud@debian:~/bivina/python$ python3 co2que10.py
number is 20
the factors of 20 are:

2
4
5
10
stud@debian:~/bivina/python$
```

Course Outcome 3 Programs

PROGRAM 30

AIM

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 finds area and perimeter of figures by different importing statements. (Include selective import of modules and import * statements)

PROGRAM

Graphice\circle.py

```
from math import pi
def
  area_circle(r
  adius):
  return
  pi*radius*ra
  dius


def
  perimeter_circl
  e(radius):
  return
  2*pi*radius
```

Graphics\rectangle.py

```
def
  area_rec(lengt
  h,width):
  return
  length*width


def
  perimeter_rec(len
  gth,width):return
  2*(length+width)
```

Graphics\tdgraphics\cuboid.py

```
def
  area_cuboid(l,
  b,h): return
  2*(l*h + b*h
  + l*b)


def
  volume_cub
```

```
oid(l,b,h):
return l*b*h
```

Graphics\tdgraphics\sphere.py

```
from math import pi

def
  area_sphere(rad
  ius): return
  4*(pi*radius*ra
  dius)

def
  perimeter_spher
  e(radius):return
  2*pi*radius
```

Graphics.py (driver code)

```
import Graphics
from Graphics import circle,rectangle
from Graphics.tdgraphics
import cuboid,sphere from
Graphics.circle import *
```

```
print("Area of a circle with radius 10 is :
",circle.area_circle(10)) print("Permeter of a circle
with radius 10 is ",circle.perimeter_circle(10))
print("\n")

print("Area of a Rectangle with length and width 10 is :
",rectangle.area_rec(10,10)) print("Permeter of a Rectangle with
length and width 10 is : ",rectangle.perimeter_rec(10,10))
print("\n")

print("Area of a cuboid with length,width,height 10 is :
",cuboid.area_cuboid(10,10,10)) print("Volume of a cuboid with
length,width,height 10 is : ",cuboid.volume_cuboid(10,10,10))
print("\n")

print("Area of a spere with radius 10 is :
",sphere.area_sphere(10)) print("Permeter of a spere with
radius 10 is ",sphere.perimeter_sphere(10))
```

OUTPUT

```
PS D:\mySpace\learn> cd python
PS D:\mySpace\learn\python> md Graphics

    Directory: D:\mySpace\learn\python


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
d-----        28-02-2022  08.29 PM                Graphics


PS D:\mySpace\learn\python> cd Graphics
PS D:\mySpace\learn\python\Graphics> notepad __init__.py
PS D:\mySpace\learn\python\Graphics> notepad circle.py
PS D:\mySpace\learn\python\Graphics> notepad rectangle.py
PS D:\mySpace\learn\python\Graphics> md tdgraphics


    Directory: D:\mySpace\learn\python\Graphics


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
d-----        28-02-2022  08.32 PM                tdgraphics


PS D:\mySpace\learn\python\Graphics> cd tdgraphics
PS D:\mySpace\learn\python\Graphics\tdgraphics> notepad __init__.py
PS D:\mySpace\learn\python\Graphics\tdgraphics> notepad cuboid.py
PS D:\mySpace\learn\python\Graphics\tdgraphics> notepad sphere.py
PS D:\mySpace\learn\python\Graphics\tdgraphics> cd ..
PS D:\mySpace\learn\python\Graphics> cd ..
PS D:\mySpace\learn\python>
```

Course Outcome 4 Programs

PROGRAM 31

AIM

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

PROGRAM

```
class Rectangle:
    def create (self,l,b):
        self.l=l
        self.b=b
    def area(self):
        a=(self.l*self.b)
        print("area=",a)
        return a

    def perimeter(self):
        b= 2*(self.l+self.b)
        print("perimeter=",b)
        return b
l=int(input("enter the length"))
b=int(input("enter the breadth"))
r1=Rectangle()
r1.create(l,b)
l=int(input("enter the length"))
b=int(input("enter the breadth"))
r2=Rectangle()
r2.create(l,b)
x=r1.area()
y=r2.area()
z=r1.perimeter()
if(x>y):
    print("the area of the first rectangle is greater")
else:
    print("the area of the second rectangle is greater")
```

OUTPUT

```
F:\python>python rect.py
enter the length4
enter the breadth4
enter the length3
enter the breadth2
area= 16
area= 6
perimeter= 16
the area of the first rectangle is greater

F:\python>
```

PROGRAM 32

AIM

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.

PROGRAM

```
class Bank_account:

    def __init__(self,ano,name,type,balance):

        self.account_number=ano        self.name=name
self.type_of_account=type        self.balance=balance     def
deposite(self,amount):

        self.balance=self.balance+amount     def withdraw(self,amount):
if(amount>self.balance):

            print("Insufficient Balance!!!")        else:

            self.balance=self.balance-amount
account1=Bank_account(101,"ABC","Savings",50000)
account2=Bank_account(102,"XYZ","Savings",80000)

#Depositing Rs 10000 to account1

print("Before Depositing-Balance of account1=",account1.balance)
account1.deposite(10000)

print("After Depositing-Balance of account1=",account1.balance)

#Withdrawing Rs 76000 from account2

print("Before Withdrawal-Balance of account2=",account2.balance)
account2.withdraw(76000)

print("After Withdrawal-Balance of account2=",account2.balance)
```

OUTPUT

```
stud@debian:~/bivina/python$ python3 co4q2.py
balance after deposit   :  60000
balance after withdrwal :  55000
balance after deposit   :  90000
balance after withdrwal :  82000
```

PROGRAM 33

AIM

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

PROGRAM

```
class Rectangle:
    def create (self,l,b):
        self.l=l
        self.b=b
    def area(self):
        a=(self.l*self.b)
        print("area=",a)
        return a

    def perimeter(self):
        b= 2*(self.l+self.b)
        print("perimeter=",b)
        return b
    def __lt__(self,rr):
        if(self.b*self.l>rr.b*rr.l):
            print("the area of the first rectangle is greater")
            return True
        else:
            print("the area of the second rectangle is greater")
            return False
l=int(input("enter the length"))
b=int(input("enter the breadth"))
r1=Rectangle()
r1.create(l,b)
l=int(input("enter the length"))
b=int(input("enter the breadth"))
r2=Rectangle()
r2.create(l,b)
x=r1.area()
y=r2.area()
z=r1.perimeter()
r1 > r2
```

OUTPUT

```
F:\python>python overload.py
enter the length3
enter the breadth2
enter the length5
enter the breadth6
area= 6
area= 30
perimeter= 10
the area of the first rectangle is greater
```

PROGRAM 34

AIM

Create a class Time with private attributes hour, minute and second. Overload '+' operator to find sum of 2 time.

PROGRAM

```
class Time:
    def __init__(self,hr,min,sec):
        self.__hr=hr
        self.__min=min
        self.__sec=sec

    def __add__(self,t2):
        self.__hr=self.__hr+t2.__hr
        self.__min=self.__min+t2.__min
        self.__sec=self.__sec+t2.__sec
        if (self.__sec>60):
```

```
            self.__sec-=60
            self.__min+=1
        if(self.__min>60):
            self.__min-=60
            self.__hr+=1
        if(self.__hr>12):
            self.__hr-=12
        print("Total time is",self.__hr,":",self.__min,":",self.__sec)

t1=Time(3,55,56)
t2=Time(2,24,8)
T1+t2
```

OUTPUT

```
F:\python>python time1.py
Total time is 6 : 20 : 4

F:\python>
```

PROGRAM 35

AIM

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.

PROGRAM

```
class Publisher(object):
    def __init__(self,name):
        self.name=name
    def display1(self):
        print(self.title)
        print(self.author)

class Book(Publisher):
    def __init__(self,name,title,author):
        super().__init__(name)
        self.title=title
        self.author=author
    def display2(self):
        super().display1()
        print(self.title)
        print(self.author)
```

```
class Python(Book):
    def __init__(self,name,title,author,price,no_of_pages):
        super().__init__(name,title,author)
        self.price=price
        self.no_of_pages=no_of_pages
    def display3(self):
        super().display2()
        print(self.price)
        print(self.no_of_pages)
p=Python("HHH Publications","The Python","Bivina",140,600)
p.display3()
```

OUTPUT

```
F:\python>python pub.py
My Python
Devadarsh j
My Python
Devadarsh j
140
600
```

Course Outcome 5 Programs

PROGRAM 36

AIM

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

PROGRAM

```
fp=open("text_file.txt",'r')
lines=[]
for line in fp:
        lines.append(line.strip())
print(lines)
```

OUTPUT

```
PS C:\Users\HP\OneDrive\Desktop\python\co5> python qn1.py
['"Cats, also called domestic cats are small, carnivorous mammals, of the family Felidae.', "Domestic cat
s are often called 'house cats' when kept as indoor pets.", 'Cats have been domesticated for nearly 10,00
0 years.', 'They are one of the most popular pets in the world."']
PS C:\Users\HP\OneDrive\Desktop\python\co5>
```

PROGRAM 37

AIM

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

PROGRAM

```
import csv

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

    reader = csv.reader(file)

    for row in reader:

        print(row)
```

OUTPUT

```
PS C:\Users\HP\OneDrive\Desktop\python\co5> python qn2.py
['Name', 'Designation', 'Salary']
['Jessy', 'Manager', '90000']
['Tom', 'Clerk', '40000']
['Alfred', 'Assistant Manager', '70000']
PS C:\Users\HP\OneDrive\Desktop\python\co5>
```