**CO-3 PROGRAMS**

**1.Design modules and packages – builtin and user defined packages.**

**MATH PROGRAM**

*import math*

*print("The value of pi:",math.pi)*

*import math as m*

*print("The value of pi is :", m.pi)*

*from math import pi,sqrt*

*print("The value of pi is : ", pi)*

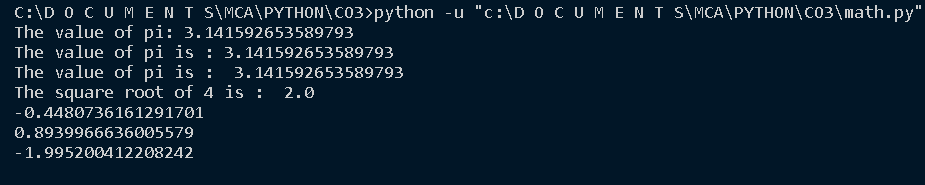
*print("The square root of 4 is : ", sqrt(4))*

*print(math.cos(90))*

*print(math.sin(90))*

*print(math.tan(90))*

**OUTPUT**



**CALENDAR PROGRAM**

*import calendar*

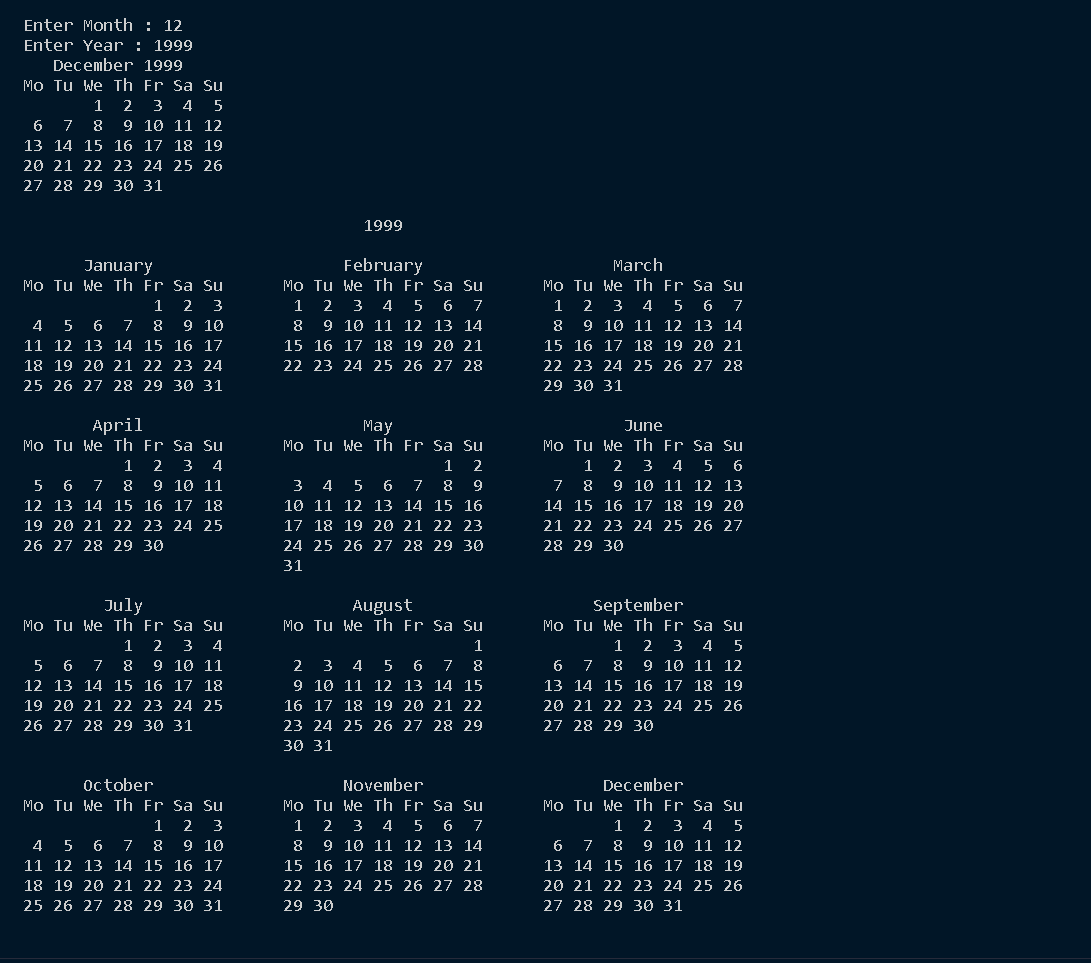
*mm = int(input("Enter Month : "))*

*yy = int(input("Enter Year : "))*

*print(calendar.month(yy,mm))*

*print(calendar.calendar(1999))*

**OUTPUT**



**TIME PROGRAM**

import time

print("Current time in sec : ",time.time())

print("Current time : ",time.ctime())

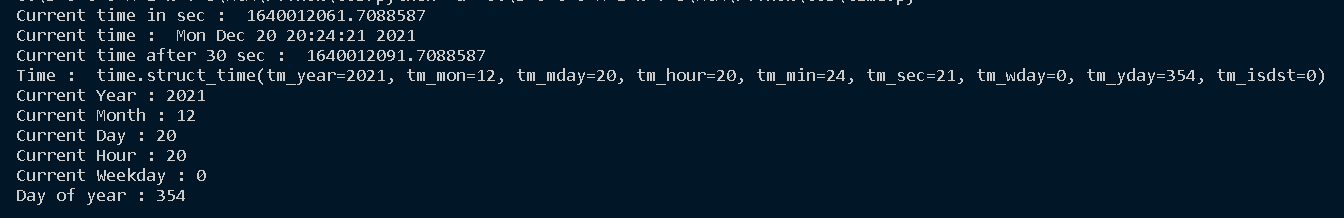
print("Current time after 30 sec : ",time.time()+30)

t = time.localtime()

print("Time : ", t)

print("Current Year :", t.tm\_year)

**OUTPUT**



**DATETIME PROGRAM**

*import datetime*

*t=datetime.time(22,56,44)*

*print(t)*

*print("Hour : ", t.hour)*

*print("Minute : ", t.minute)*

*print("Second : ", t.second)*

*print("==============================")*

*d = datetime.date.today()*

*print(d)*

*td = datetime.timedelta(days=2)*

*print(td)*

*d2 = d+td*

*print("After adding two days :",d2)*

*print("d2-d",d2-d)*

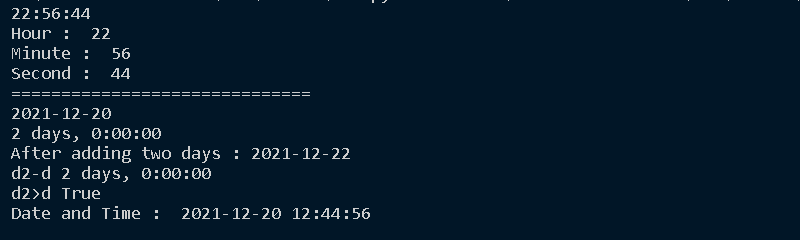
*print("d2>d",d2>d)*

*d1 = datetime.date.today()*

*t1 = datetime.time(12,44,56)*

*print("Date and Time : ",d1, t1)*

**OUTPUT**



**STATISTICS PROGRAM**

import statistics

# Calculate average values

print("Mean : ",statistics.mean([1, 3, 5, 7, 9, 11, 13]))

print("Mean : ",statistics.mean([1, 3, 5, 7, 9, 11]))

print("Mean : ",statistics.mean([-11, 5.5, -3.4, 7.1, -9, 22]))

print("===============================")

# Calculate middle values

print("Median : ",statistics.median([1, 3, 5, 7, 9, 11, 13]))

print("Median : ",statistics.median([1, 3, 5, 7, 9, 11]))

print("Median : ",statistics.median([-11, 5.5, -3.4, 7.1, -9, 22]))

print("===============================")

# Calculate the mode

print("Mode :",statistics.mode([1, 3, 3, 3, 5, 7, 9, 11]))

print("Mode :",statistics.mode([1, 1, 3, -5, 7, -9, 11]))

print("Mode :",statistics.mode(['red', 'green', 'blue', 'red']))

print("===============================")

# Calculate the variance from a sample of data

print("Varience :",([1, 3, 5, 7, 9, 11]))

print("Varience :",statistics.variance([2, 2.5, 1.25, 3.1, 1.75, 2.8]))

print("Varience :",statistics.variance([-11, 5.5, -3.4, 7.1]))

print("Varience :",statistics.variance([1, 30, 50, 100]))

print("===============================")

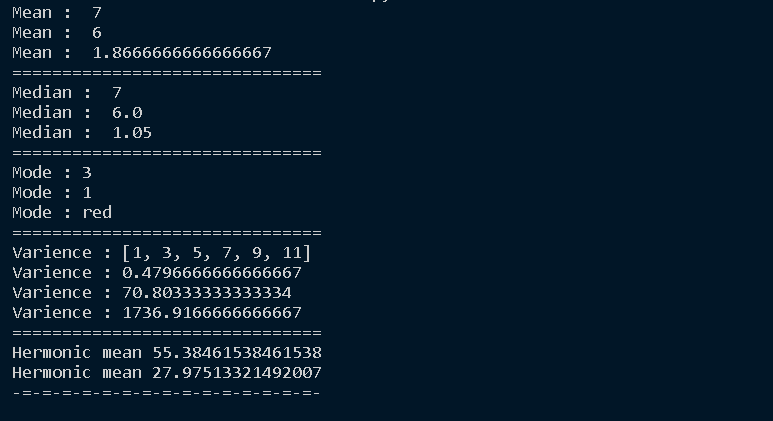
# Calculate harmonic mean

print("Hermonic mean",statistics.harmonic\_mean([40, 60, 80]))

print("Hermonic mean",statistics.harmonic\_mean([10, 30, 50, 70, 90]))

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

**OUTPUT**



**RANDOM PROGRAM**

import random

print(random.random())

print("===============================")

mylist = ["apple", "banana", "cherry"]

random.shuffle(mylist)

print(mylist)

print("===============================")

random.seed(10)

print(random.random())

print("===============================")

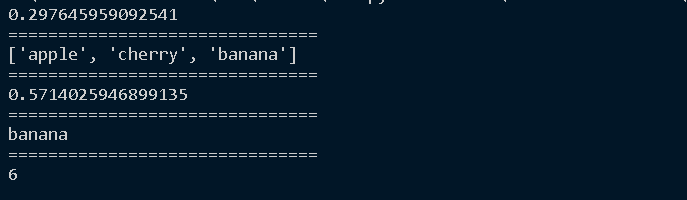
mylist = ["apple", "banana", "cherry"]

print(random.choice(mylist))

print("===============================")

print(random.randrange(3, 9))

**OUTPUT**



**PACKAGE PROGRAM**

**circle.py**

def area(r):

print("AREA OF CIRCLE:",3.14\* r \* r)

def perimeter(r):

p=2\*3.14\*r

print("PERIMETER OF CIRCLE",p)

**rectangle.py**

def area(x,y):

print("AREA OF RECTANGLE:",x\*y)

def perimeter(x,y):

p=2\*(x+y)

print("PERIMETER OF RECTANGLE",p)

**co3questions.py**

from graphics import circle,rectangle

x=int(input("enter the length of rectangle"))

y=int(input("enter the breadth of rectangle"))

rectangle.area(x,y)

rectangle.perimeter(x,y)

z=int(input("enter the radius of circle"))

circle.area(z)

circle.perimeter(z)

**OUTPUT**

