CO3 Programs

1.Built in packages.

Datetime

import datetime

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

print(t)

print("hour",t.hour)

print("minute",t.minute)

print("second",t.second)

print("microsecond",t.microsecond)

d=datetime.date.today()

print(d)

print("year",d.year)

print("month",d.month)

print("day",d.day)

d1=datetime.date.today()

print(d1)

td=datetime.timedelta(days=2)

print(td)

d2=d1+td

print(d2)

dt=datetime.datetime.combine(d,t)

print(dt)

Output

22:56:44

hour 22

minute 56

second 44

microsecond 0

2021-12-20

year 2021

month 12

day 20

2021-12-20

2 days, 0:00:00

2021-12-22

2021-12-20 22:56:44

Calender

import calendar

mm=int(input("Enter month:"))

yy=int(input("Enter year:"))

print(calendar.month(yy,mm))

print(calendar.calendar(2015))

Output

Enter month:2

Enter year:2015

February 2015

Mo Tu We Th Fr Sa Su

1

2 3 4 5 6 7 8

9 10 11 12 13 14 15

16 17 18 19 20 21 22

23 24 25 26 27 28

2015

January February March

Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su

1 2 3 4 1 1

5 6 7 8 9 10 11 2 3 4 5 6 7 8 2 3 4 5 6 7 8

12 13 14 15 16 17 18 9 10 11 12 13 14 15 9 10 11 12 13 14 15

19 20 21 22 23 24 25 16 17 18 19 20 21 22 16 17 18 19 20 21 22

26 27 28 29 30 31 23 24 25 26 27 28 23 24 25 26 27 28 29

30 31

April May June

Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su

1 2 3 4 5 1 2 3 1 2 3 4 5 6 7

6 7 8 9 10 11 12 4 5 6 7 8 9 10 8 9 10 11 12 13 14

13 14 15 16 17 18 19 11 12 13 14 15 16 17 15 16 17 18 19 20 21

20 21 22 23 24 25 26 18 19 20 21 22 23 24 22 23 24 25 26 27 28

27 28 29 30 25 26 27 28 29 30 31 29 30

July August September

Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su

1 2 3 4 5 1 2 1 2 3 4 5 6

6 7 8 9 10 11 12 3 4 5 6 7 8 9 7 8 9 10 11 12 13

13 14 15 16 17 18 19 10 11 12 13 14 15 16 14 15 16 17 18 19 20

20 21 22 23 24 25 26 17 18 19 20 21 22 23 21 22 23 24 25 26 27

27 28 29 30 31 24 25 26 27 28 29 30 28 29 30

31

October November December

Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su

1 2 3 4 1 1 2 3 4 5 6

5 6 7 8 9 10 11 2 3 4 5 6 7 8 7 8 9 10 11 12 13

12 13 14 15 16 17 18 9 10 11 12 13 14 15 14 15 16 17 18 19 20

19 20 21 22 23 24 25 16 17 18 19 20 21 22 21 22 23 24 25 26 27

26 27 28 29 30 31 23 24 25 26 27 28 29 28 29 30 31

30

Math

import math

print(math.pi)

import math as m

print(m.pi)

from math import pi,sqrt

print(math.pi)

print(math.sqrt(4))

print(math.cos(90))

print(math.sin(1/2))

print(math.tan(0))

Output

3.141592653589793

3.141592653589793

3.141592653589793

2.0

-0.4480736161291701

0.479425538604203

0.0

Time

import time

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

print("current time",time.ctime())

print("current time after 30 sec",time.ctime(time.time()+30))

t=time.localtime()

print("time",t)

print("current year",t.tm\_year)

print("current month",t.tm\_mon)

print("current day",t.tm\_wday)

print("current hour",t.tm\_hour)

print("current minitue",t.tm\_min)

print("current second",t.tm\_sec)

Output

current time in sec: 1639964554.0842216

current time Mon Dec 20 07:12:34 2021

current time after 30 sec Mon Dec 20 07:13:04 2021

time time.struct\_time(tm\_year=2021, tm\_mon=12, tm\_mday=20, tm\_hour=18, tm\_min=50, tm\_sec=15, tm\_wday=0, tm\_yday=354, tm\_isdst=0)

current year 2021

current month 12

current day 0

current hour 18

current minitue 50

current second 15

Statistics

import statistics

l=[4,6,8,9,3,4,5,7,8,7,0,7,3]

a=statistics.mean(l)

print(a)

b=statistics.median(l)

print(b)

c=statistics.mode(l)

print(c)

d=statistics.stdev(l)

print(d)

e=statistics.variance(l)

print(e)

Output

5.461538461538462

6

7

2.569545505058064

6.602564102564102

Random

import random

l1 = [2, 4, 6, 8, 10, 12]

print(random.choice(l1))

random.seed(4)

print(random.random())

print(random.random())

r1=random.randint(2,4)

print(r1)

Output

12

0.23604808973743452

0.1031660342307158

3

2.Create a package graphics with modules rectangle,circle.Include methods to finf area and perimeter of respective figures in each module.Write programs that find area and perimeter of figures by import statements.

Circle

def area(r):

print(3.14\*r\*r)

def perimeter(r):

print(2\*3.14\*r)

Rectangle

def area(x,y):

print(x\*y )

def perimeter(x,y):

print(2\*(x+y))

\_\_init\_\_

Graphics

from graphics import rectangle

from graphics import circle

print (rectangle)

rectangle.area(5,6)

rectangle.perimeter(8,2)

print(circle)

circle.area(4)

circle.perimeter(6)

Output

<module 'graphics.rectangle' from 'E:\\devu1\\graphics\\rectangle.py'>

30

20

<module 'graphics.circle' from 'E:\\devu1\\graphics\\circle.py'>

50.24