1.MODULES:

MATHMODULE:

#math module

import math

print("the value pie is",math.pi)

print("....................")

import math as m

print("the value of pi is",m.pi)

print("....................")

from math import pi,sqrt

print("value of pi",pi)

print("value squre root of 4",sqrt(4))

print("....................")

print(math.cos(90))

print(math.sin(9))

print(math.tan(0))

print("....................")

OUTPUT:

>>> %Run mathmodules.py

the value pie is 3.141592653589793

....................

the value of pi is 3.141592653589793

....................

value of pi 3.141592653589793

value squre root of 4 2.0

....................

-0.4480736161291701

0.4121184852417566

0.0

....................

>>>

DATE AND TIME MODULE:

#datetime module

print("..................")

import datetime

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

print(t)

print("..............")

print("hour",t.hour)

print("minute",t.minute)

print("second",t.second)

print("micro sec",t.microsecond)

print("..................")

d=datetime.date.today()

print(d)

print("yr",d.year)

print("mnth",d.month)

print("day",d.day)

print("...............")

d1=datetime.date.today()

print(d1)

td=datetime.timedelta(days=2)

print(td)

d2=d1+td

print(d2)

print("..............")

print()

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

print(dt)

print("...................")

OUTPUT:

>>> %Run dateandtimemoule.py

..................

22:56:44

..............

hour 22

minute 56

second 44

micro sec 0

..................

2021-12-20

yr 2021

mnth 12

day 20

...............

2021-12-20

2 days, 0:00:00

2021-12-22

..............

2021-12-20 22:56:44

...................

>>>

CALENDER MODULE:

#calender module

print("...................")

import calendar

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

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

print(calendar.month(yy,mm))

print("...................")

print(calendar.calendar(2000))

print("...................")

OUTPUT:

>>> %Run calendermodule.py

...................

enter month:3

enter year:2000

March 2000

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 29 30 31

...................

2000

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 1 2 3 4 5 6 1 2 3 4 5

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

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

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

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

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 1 2 3 4 5 6 7 1 2 3 4

3 4 5 6 7 8 9 8 9 10 11 12 13 14 5 6 7 8 9 10 11

10 11 12 13 14 15 16 15 16 17 18 19 20 21 12 13 14 15 16 17 18

17 18 19 20 21 22 23 22 23 24 25 26 27 28 19 20 21 22 23 24 25

24 25 26 27 28 29 30 29 30 31 26 27 28 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 1 2 3 4 5 6 1 2 3

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

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

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

24 25 26 27 28 29 30 28 29 30 31 25 26 27 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 1 2 3 4 5 1 2 3

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

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

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

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

30 31

...................

>>>

TIME MODULE:

#timemodule

print("....................")

import time

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

print("....................")

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

print("....................")

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

print("....................")

t=time.localtime()

print("time:",t)

print("....................")

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

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

print("current day:",t.tm\_mday)

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

print("current min:",t.tm\_min)

print("current sec:",t.tm\_sec)

print("current weakday:",t.tm\_wday)

print("...................")

OUTPUT:

>>> %Run timemodule.py

....................

current time in sec 1639985150.6602795

....................

current time: Mon Dec 20 12:55:50 2021

....................

current time after 30 sec: Mon Dec 20 12:56:20 2021

....................

time: time.struct\_time(tm\_year=2021, tm\_mon=12, tm\_mday=20, tm\_hour=12, tm\_min=55, tm\_sec=50, tm\_wday=0, tm\_yday=354, tm\_isdst=0)

....................

current year: 2021

current month: 12

current day: 20

current hour: 12

current min: 55

current sec: 50

current weakday: 0

...................

>>>

STATIC MODULE:

#statistic module

import statistics

l=[1,2,3,4,3,5]

print("mean:",statistics.mean(l))

print("median:",statistics.median(l))

print("mode:",statistics.mode(l))

print("harmonic mean:",statistics.harmonic\_mean(l))

print("std dev:",statistics.stdev)

print(".................")

OUTPUT:

>>> %Run staticmodule.py

mean: 3

median: 3.0

mode: 3

harmonic mean: 2.2929936305732483

std dev: <function stdev at 0x03E07CD8>

.................

>>>

RANDOM MODULE:

#rondom module

print(".............")

import random

l1=["apple","bnanana","orange"]

print("sample",random.sample(l1,k=2))

print("choice",random.choice(l1))

print("choices:",random.choices(l1,k=2))

random.shuffle(l1)

OUTPUT:

>>> %Run randommodule.py

.............

sample ['apple', 'bnanana']

choice apple

choices: ['apple', 'orange']

>>>

2.

CIRCLE:

pi=3.14

def area(pi,r):

return(r\*r\*pi)

def perimeter(pi,r):

return(2\*pi\*r)

RECTANGLE:

pi=3.14

def area(pi,r):

return(r\*r\*pi)

def perimeter(pi,r):

return(2\*pi\*r)

INIT:

\_\_init\_\_

SPHERE:

def area(r):

print("Surface Area of Sphere: ",4\*3.14\*r\*r)

def volume(r):

print("Volume of Sphere: ",(4/3)\*3.14\*r\*r\*r)

CUBOID:

def area(l,b,h):

print("Area of Cuboid: ",(2\*l\*b)+(2\*l\*h)+(2\*h\*b))

def perimeter(l,b,h):

print("Perimeter of Cuboid: ", 4\*(l+b+h))

GRAPHIC USE:

from graphics import rectangle

from graphics import circle

from graphics.threeD\_graphic import sphere

from graphics.threeD\_graphic import cuboid

rec=rectangle.area(2,3)

per=rectangle.perimeter(2,3)

cir=circle.area(circle.pi,3)

cperi=circle.perimeter(circle.pi,3)

print("area of circle:",cir)

print("peri of circle:",cperi)

print("area of rec:",rec)

print("peri of rec",per)

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

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

h=int(input("Enter the height of Cuboid: "))

cuboid.area(l,b,h)

cuboid.perimeter(l,b,h)

print()

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

sphere.area(r)

sphere.volume(r)

OUTPUT:

>>> %Run graphicsuse.py

area of circle: 28.26

peri of circle: 18.84

area of rec: 18

peri of rec 12

Enter the length of Cuboid: 3

Enter the breadth of Cuboid: 4

Enter the height of Cuboid: 5

Area of Cuboid: 94

Perimeter of Cuboid: 48

Enter the radius of Sphere: 6

Surface Area of Sphere: 452.15999999999997

Volume of Sphere: 904.3199999999998

>>>