Task 3 : Importing Python modules and packages in Python programming

(a) Digital clock Display using Built-in Module

Aim :- To write a program to show the current system time in a user friendly format in desktop widget.

Algorithm :-

1. Start the program
2. Import the built-in-time module
3. use time.strftime() to get the current time in the desired format : HH:MM:SS AM/PM.
4. Display the formatted time to the user.
5. End the program.

program :-

```
import time
Current_time = time.strftime("%I : %M : %S : %P")
print("current Time:", current_time)
```

Task-3b : Custom Geometry Module for Area calculation

Aim : Write a python program to create a custom module named geometry.py with function area – circle (raduis) and area – rectangle (length width) and demonstrate use of both function.

Algorithm :

1. Start

2. Create a module named geometry.py
   - Define function area – circle (raduis) → return $\pi \times radius^2$
   - Define function area – rectangle (length, width) → returns length × width

3. Create a main program file.
4. Import the geometry module.
5. Read raduis from user
6. Read length and width from user
7. call area – circle (raduis) and display result.
8. call area – rectangle (length, width) and display result
9. Stop

Program :

```
import geometry
r = float (input ("Enter raduis of circle : "))
l = float (input ("Enter length of rectangle : "))
w = float (input ("Enter width of rectangle : "))

circle – area = geometry. area – circle (r)
rect – area = geometry. area – rectangle (l, w)

print ( f" Area of circle = {circle – area : .2f3 ")
print ( f" Area of rectangle = {rect – area : . 2f3 ")
```

output :-

Enter raduis of circle : 5
Area of circle = 78.53981

Enter length of rectangle : 10
Enter width of rectangle : 4
Area of rectangle = 40

Task-3C: Package for Temperature conversion

Aim : To write a python program to create a package called temperature with a module convert. py that include function to fahrenheit (celsius) and to Celsius (fahrenheit).

Algorithm :

1. Start

2. Create a package named temperature

3. Inside the package, create a module file convert.py
   - Define function
     celsius _ to _ fahrenheit (c) $\longrightarrow$ return $(c \times 9/5) + 32$
   - Define function
     fahrenheit _ to _ celsius (f) $\longrightarrow$ return $(f - 32) \times 5/9$

4. Create a main program

5. Import the convert module from the temperature package.

6. Input temperature in celsius.

7. call celsius _ to _ fahrenheit (c) and display result

8. Input temperature in Fahrenheit

9. call fahrenheit _ to _ celsius (f) and display result

10. Stop

Program :

```
def celsius _ to _ fahrenheit (c) :
    return (c * 9/5) + 32

def fahrenheit _ to _ celsius (f) :
    return (f - 32) * 5/9

c = float (input ("Enter temperature in Celsius :"))

f = float (input ("Enter temperature in Fahrenheit :"))

to _ f = celsius _ to _ fahrenheit (c)
```

```
to_c = fahrenheit_to_celsius(f)
print(f"{c}°c = {to_f:.2f}°F")
print(f"{f}°F = {to_c:.2f}°c")
```

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PERFORMANCE (5)	5
RESULT AND ANALYSIS (3)	5
VIVA VOCE (3)	5
RECORD (4)	
TOTAL (15)	15
SIGN WITH DATE	

Result : Thus Python program for importing Python modules and package in python programming is verified and executed.

Output:

Enter temperature in Celsius: 37

Enter temperature in Fahrenheit: 98.6

$37.0°C = 98.60°F$

$98.6°F = 37.00°C$