

EXPERIMENT NO : 4A

Python programs to implement User-defined modules/packages and import in a program

NAME : AKASH RAMKRIT YADAV

ID.NO: VU4F2122016

BATCH : A

BRANCH : IT

DIV : A

Aim :- python programs to implement User-defined modules/packages and .
import them in a program

THEORY:

OUTPUT:

Python 3.11.0a4 (main, Mar 13 2023, 10:57:32) [MSC v.1929 32 bit (Intel)] on win32

Type "help", "copyright", "credits" or "license()" for more information.

#AKASH YADAV ID.NO:VU4F2122016 EXP:4A DATE:13/3/2023

Create a Module

To create a module just save the code you want in a file with the file extension **.py**:

Example

Save this code in a file named AKASH.**.py**

AKASH.PY - C:/Users/lenovo/Downloads/AKASH.PY (3.11.1)

File Edit Format Run Options Window Help

```
def greeting(name):  
    print('Hello,'+name)  
  
def EvenOdd(a):  
    if(a % 2 == 0):  
        print("ENTERED NUMBER IS EVEN:")  
    else:  
        print("ENTERED NUMBER IS ODD:")  
  
def square(a):  
    b=a*a  
    print(b)  
  
def cube(a):  
    b=a*a*a  
    print(b)  
  
def div(a,b):  
    c=a/b  
    print(c)  
  
def table(num):  
    for i in range(1, 11):  
        print(num, 'x', i, '=', num*i)
```

Use a Module :

Now we can use the module we just created, by using the `import` statement:

Example

Import the module named mymodule, and call the greeting function:

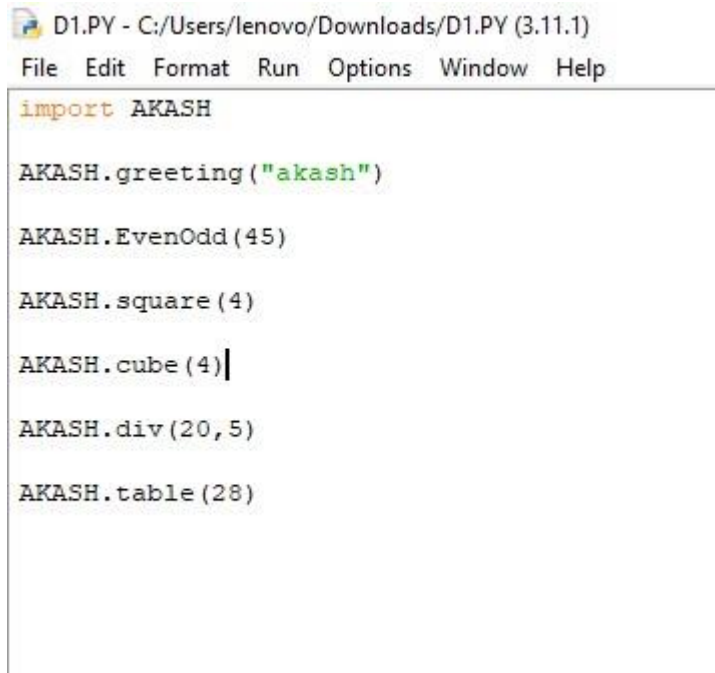
EvenOdd function:

Square function:

Cube function:

Div function:

Table function:



```
D1.PY - C:/Users/lenovo/Downloads/D1.PY (3.11.1)
File Edit Format Run Options Window Help

import AKASH

AKASH.greeting("akash")

AKASH.EvenOdd(45)

AKASH.square(4)

AKASH.cube(4)

AKASH.div(20,5)

AKASH.table(28)
```

OUTPUT:



```
IDLE Shell 3.11.1
File Edit Shell Debug Options Window Help

Python 3.11.1 (tags/v3.11.1:a7a450f, Dec 6 2022, 19:58:39) [MSC v.1934 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.

>>>
===== RESTART: C:/Users/lenovo/Downloads/D1.PY =====
Hello,akash
ENTERED NUMBER IS ODD:
16
64
4.0
28 x 1 = 28
28 x 2 = 56
28 x 3 = 84
28 x 4 = 112
28 x 5 = 140
28 x 6 = 168
28 x 7 = 196
28 x 8 = 224
28 x 9 = 252
28 x 10 = 280
>>>
```

EXAMPLE: 2

Create a Module:

```
from tkinter import *
import tkinter.messagebox

def gpa_calculator(grades):
    points = 0
    i = 0
    grade_c = {"A":4,"A-":3.67,"B+":3.33,"B":3.0,"B-":2.67,"C+":2.33,"C":2.0,"C-":1.67,"D+":1.33,"D":1.0,"F":0}
    if grades != []:
        for grade in grades:
            if grade not in grade_c:
                return "Invalid"
            points += grade_c[grade]
        gpa = points / len(grades)
        return gpa
    else:
        return None

class App:
    def __init__(self, parent):
        self.parent = parent
        self.frame_1 = Frame(parent)
        self.frame_1.pack()
        self.sub_count = 1
        self.subs = []
        Label(self.frame_1, text=" AKASH YADAV \n Enter Grade :").grid(row=self.sub_count-1, column=0)
        self.subs.append(Entry(self.frame_1))
        self.subs[self.sub_count-1].grid(row=self.sub_count-1, column=1)

        self.btn_1 = Button(parent, text="Add Courses !",
                             command=self.add_courses)
        self.btn_1.pack(pady=8)
        self.btn_2 = Button(parent, text="Calculate GPA",
                             command=self.calc_CG)
        self.btn_2.pack(pady=8)

    def add_courses(self):
        self.sub_count += 1
        Label(self.frame_1, text="Enter Grade :").grid(row=self.sub_count-1, column=0)
        self.subs.append(Entry(self.frame_1))
        self.subs[self.sub_count-1].grid(row=self.sub_count-1, column=1)

    def calc_CG(self):
        grades = []
        for sub in self.subs:
            if sub.get() != "":
                grades.append(sub.get())
        tkinter.messagebox.showinfo("Predicted CGPA ", str(gpa_calculator(grades)))

root = Tk()
app = App(root)
root.mainloop()
```

Use a Module :

)
CGPA CALCULATOR.PY - C:\Users\lenovo\Downloads\CGPA CALCULATOR.PY (3.11.1)

File Edit Format Run Options Window Help

```
import AKASH_CGPA
```

OUTPUT:

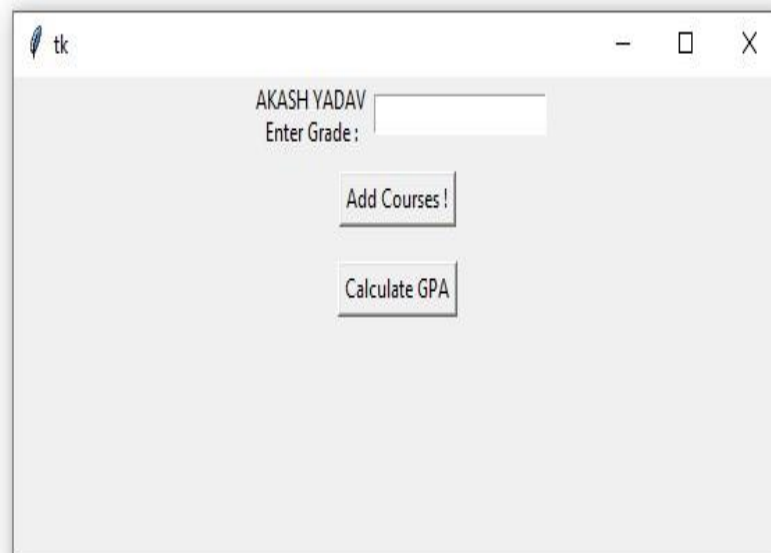
IDLE Shell 3.11.1

File Edit Shell Debug Options Window Help

```
Python 3.11.1 (tags/v3.11.1:a7a450f, Dec 6 2022, 19:58:39) [MSC v.1934 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
```

```
>>>
```

```
===== RESTART: C:\Users\lenovo\Downloads\CGPA CALCULATOR.PY =====
```



tk

AKASH YADAV

Enter Grade:

Add Courses!

Calculate GPA

"IDLE Shell 3.11.1"

File Edit Shell Debug Options Window Help

Python 3.11.1 (tags/v3.11.1:a7a450f, Dec 6 2022, 19:58:39) [MSC v.1934 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.

>>>

===== RESTART: C:\Users\lenovo\Downloads\CGPA CALCULATOR.PY =====

tk

AKASH YADAV

Enter Grade: A

Enter Grade: A

Add Courses!

Calculate GPA

Predicted ...

4.0

OK