

Chap 4: Python Functions, Modules & Packages

1. Define function in python. List its types.
2. Explain built in function in detail with example.(type/data conversion,math, string etc)
3. What is user defined function? How to declare, define & call function in python with syntax & example.
4. Explain function argument and parameter passing with syntax and example.
5. Explain scope of variable with example.
6. Explain function with return statement with syntax and example.
7. What is module? How does module defined in python?
8. Explain in detail how module & object from module can be import with example.
9. Explain built in modules (numeric,mathematical,functional programming module) with example.
10. Explain the concept of namespace & scoping in detail with example.
11. How python package can be created. Give steps to write package with syntax & example.
12. Explain in detail standard packages with its uses.(math, scipy,numpy,matplotlib, pandas)
13. Explain user defined packages with example & syntax.
14. Use of any four methods in math module
15. Use of NumPy.
16. Describe module in Python with its advantages?
17. Show the output for the following:
 1.

```
>>> a=[1,2,3]
>>>b=[4,5,6]
>>> c=a+b
```
 2.

```
>>>[1,2,3]*3
```
 3.

```
>>>t=['a','b','c','d','e','f']
>>>t[1:3]=['x','y']
>>>print t
```
18. Write the output for the following if the variable fruit='banana':

```
>>>fruit[:3]
>>>fruit[3:]
>>>fruit[3:3]
>>>fruit[:]
```
19. Write a Python function that accepts a string and calculate the number of upper case letters and lower case letters.

20. Write a Python program to generate a random float where the value is between 5 and 50 using Python math module.
21. Write a Python function that takes a number as a parameter and check the number is prime or not.
22. Write a Python function to calculate the factorial of a number (a non-negative integer). The function accepts the number as an argument.
23. Write a Python function that accepts a string and calculate the number of upper case letters and lower case letters.
24. Write a Python program to create a user defined module that will ask your college name and will display the name of the college.
25. Write a Python program that will calculate area and circumference of circle using inbuilt Math Module
26. Write a Python program that will display Calendar of given month using Calendar Module
27. Write a Python program to create two matrices and perform addition, subtraction, multiplication and division operation on matrix.
28. Write a Python program to concatenate two strings.
29. Write a NumPy program to generate six random integers between 10 and 30.
30. Write a Python program to create a class to print the area of a square and a rectangle. The class has two methods with the same name but different number of parameters. The method for printing area of rectangle has two parameters which are length and breadth respectively while the other method for printing area of square has one parameter which is side of square.