

Date: 23/12/25

To-Do:

- Modules in python
-

Modules in python:

- A module in python is a file containing definitions of functions, classes and variables.
- Helps organize code in separate files so that programs become easy to maintain and reuse.
- In modules we group similar functionality programs together so that we can access them quickly and easily without having to import everything.

→ **Create a Python Module**

- ◆ To create module, just write the desired code in a .py file extension
- ◆ Example:

```
#calc.py
def add(x,y):
    return(x+y)
```

→ **Import Module**

- ◆ Modules can be used in another python files using the import statement.
- ◆ Syntax:
 - import module
- ◆ Example:
 - import calc
print(calc.add(3,4)) #import calc loads the module and calc.add()
accesses a function through dot notation.

→ **Types of Import Statement**

◆ Import from module

This allows importing specific functions from the module

- Example:
 - from calc import add
print(add(3,4))

◆ Import all names

* imports everything from a module

- Example :
 - from calc import *

◆ Import with alias

You basically give a nickname to the module, so that u dont have to write that module name again and again.

- Example :

- Import calc as m
print(m.add(8,9))

→ **Types Of Modules:**

◆ **Built in modules:**

These come bundled with python and require no installation- eg., math, random,os.

- Example:

- import random
print(random.randint(1,5)) # random.randint() returns a random number within the given range.

◆ **User defined modules:**

These modules we create by ourselves.

- Example:

- Import calc
print(calc.add(7,7))

◆ **External modules:**

These modules are installed using pip- eg., Numpy, Pandas, Requests.

- Example:

- import requests
R = requests.get("https://exmaple.com")
print(r.status_code) # provides HTTP utilities

◆ **Package modules:**

A package is a directory containing multiple modules, usually with a `__init__.py` file.

- Example directory:

```
mypackage/
    __init__.py
    calc.py
    utils.py
○ from mypackage import calc
    print(calc.add(4,6))
```