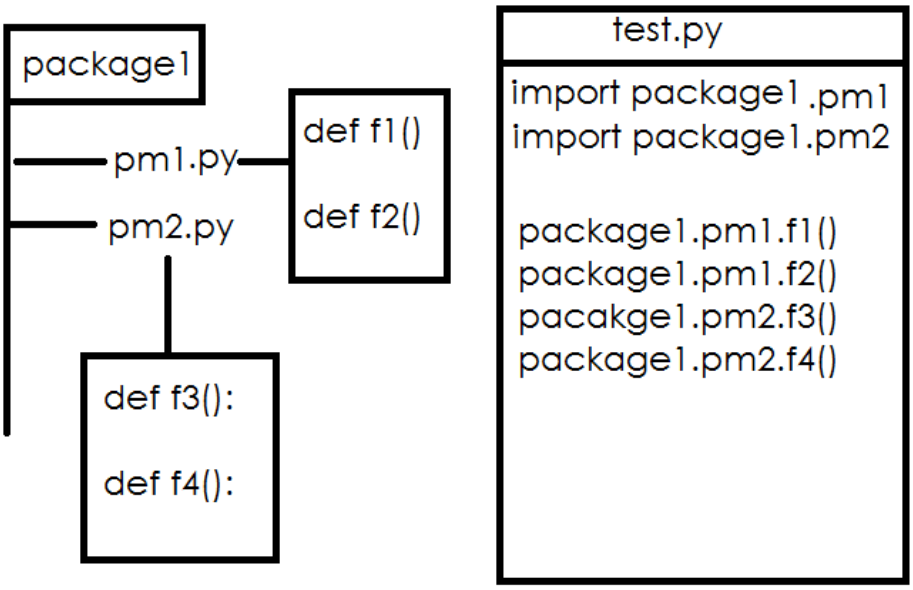
How to create a package?

IDLE does not provide any option for creating package

1. Open the location where package has to be created
2. Inside that location create folder

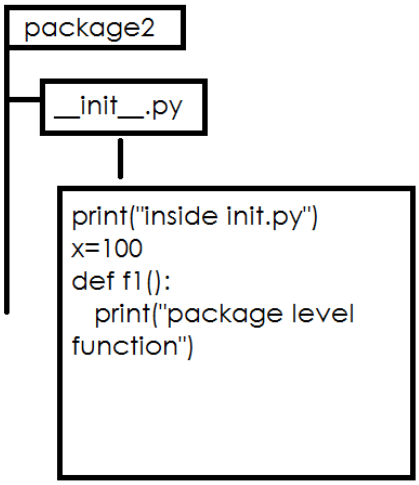


__init__.py

__init__.py is special module or program, package initial module. This module is executed automatically when package is imported
This module consists,

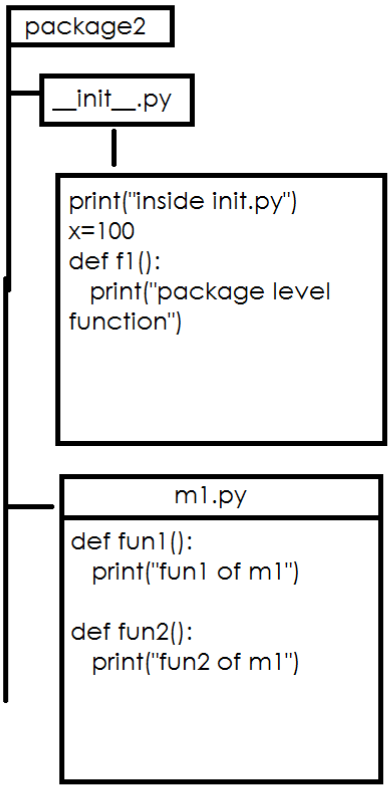
1. Global variables/Package level variables
2. Global functions/package level function
3. Import statements

__init__.py is also called package configuration module or program. Block of statement which has to executed when package is imported those statement are written inside __init__.py



ptest1.py

```
import package2
print(package2.x)
package2.f1()
```

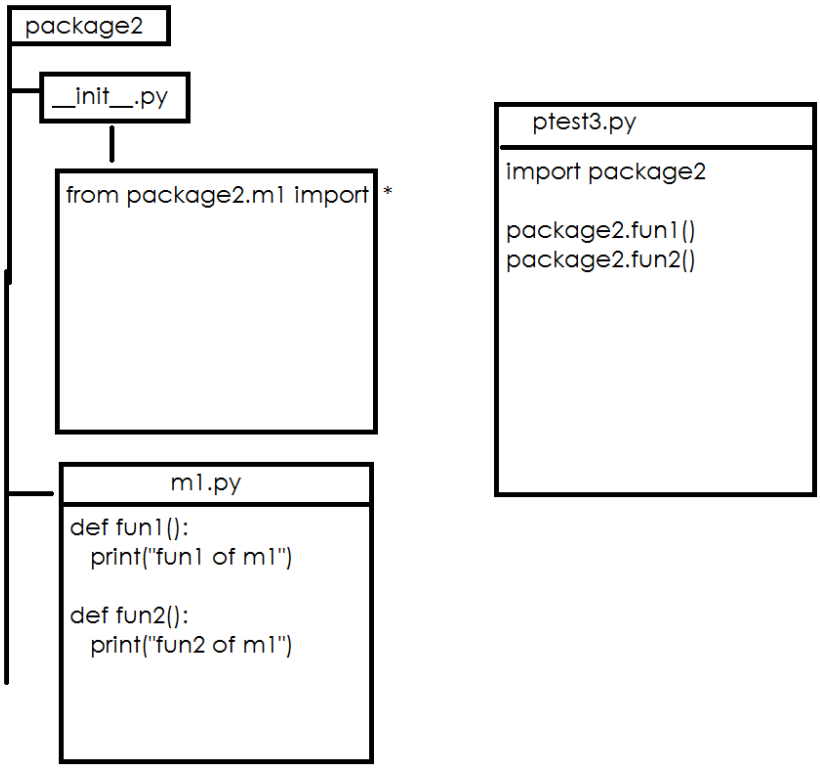


ptest1.py

```
import package2
print(package2.x)
package2.f1()
```

ptest3.py

```
import package2.m1

package2.m1.fun1()
package2.m1.fun2()
package2.f1()
print(package2.x)
```



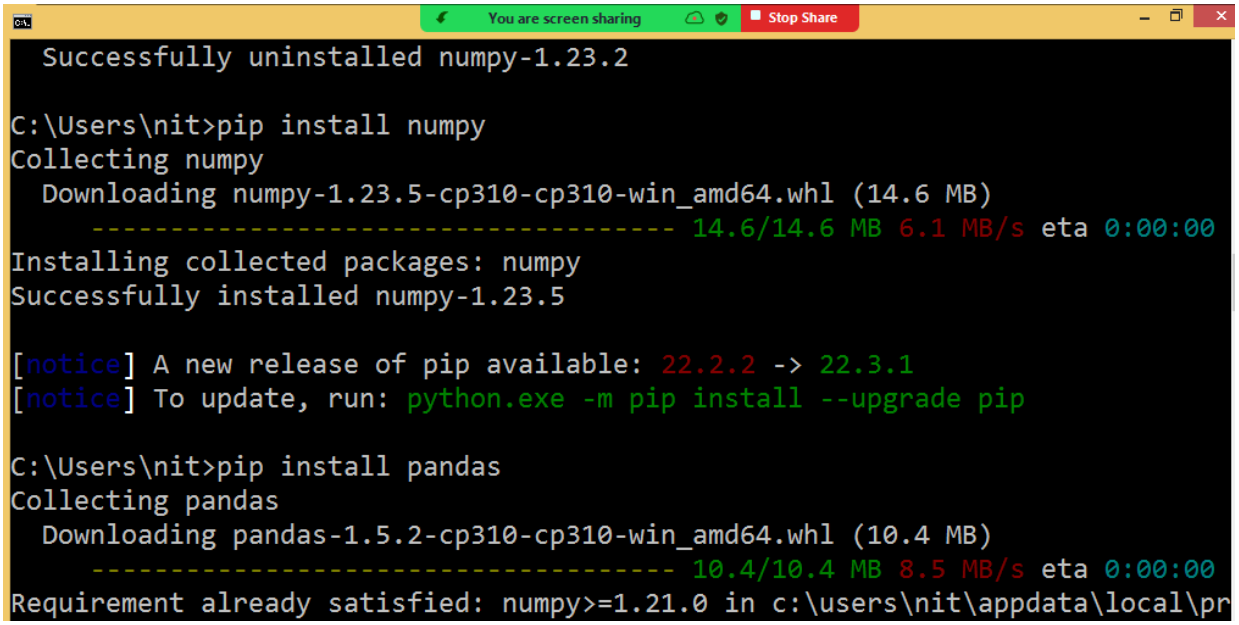
pip tool
pip tool or command which comes with python software. pip tool is used for managing packages or libraries.
Pip stands for preferred installer program

Syntax
pip <command>

commands

1. **Install**
2. **Uninstall**
3. **List**
4. **Show**
5. **freeze**

Install command is used for installing packages or libraries.
All python libraries are available in web site/repository python package index (www.pypi.org)
pip install <library name>/<package-name>



displaying the package installed in the system

```
C:\Users\nit>pip list
Package                Version
---------------------- ---------
anyio                  3.6.1
asgiref                3.5.0
certifi                2022.6.15
charset-normalizer     2.1.1
click                  8.1.3
colorama               0.4.5
cx-Oracle              8.3.0
cycler                 0.11.0
Django                 4.0.6
django-mathfilters     1.0.0
djangorestframework    3.13.1
fastapi                0.85.0
Flask                  2.2.2
fonttools              4.29.1
idna                   3.3
itsdangerous           2.1.2
```

Uninstalling existing packages

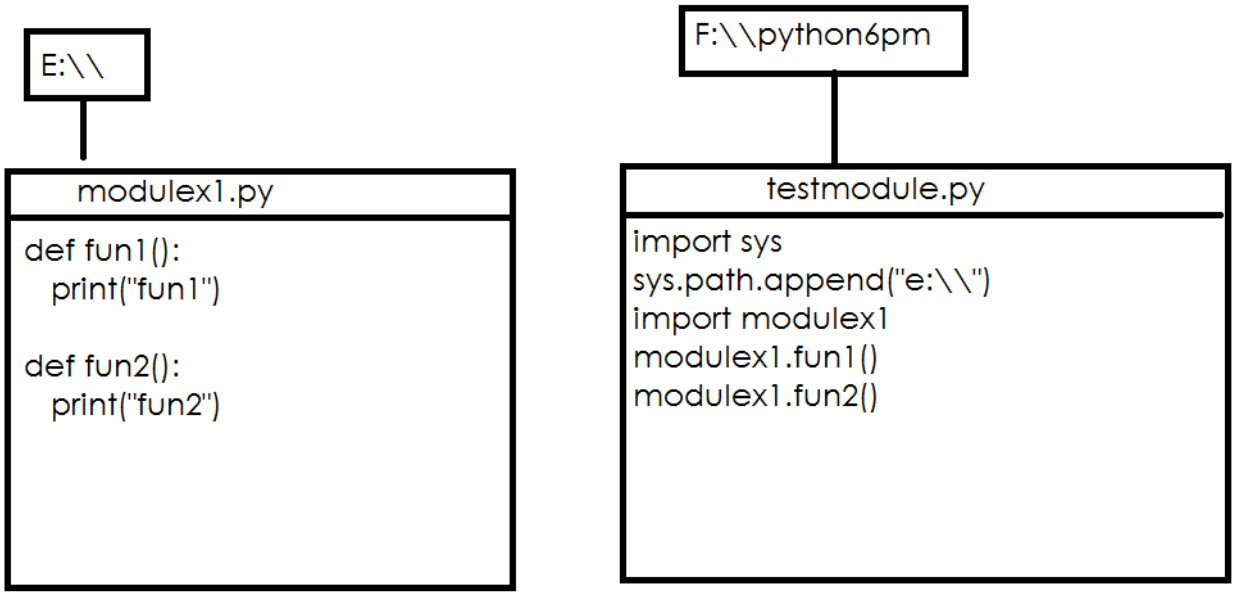
pip uninstall package-name

```
C:\Users\nit>pip uninstall pandas
Found existing installation: pandas 1.4.4
Uninstalling pandas-1.4.4:
  Would remove:
    c:\users\nit\appdata\local\programs\python\python310\lib\site-packages\pa
s-1.4.4.dist-info\*
    c:\users\nit\appdata\local\programs\python\python310\lib\site-packages\pa
s\*
Proceed (Y/n)? y
  Successfully uninstalled pandas-1.4.4

C:\Users\nit>pip uninstall numpy
Found existing installation: numpy 1.23.2
Uninstalling numpy-1.23.2:
  Would remove:
    c:\users\nit\appdata\local\programs\python\python310\lib\site-packages\nu
-1.23.2.dist-info\*
    c:\users\nit\appdata\local\programs\python\python310\lib\site-packages\nu
\*
    c:\users\nit\appdata\local\programs\python\python310\scripts\f2py.exe
Proceed (Y/n)? y
  Successfully uninstalled numpy-1.23.2
```


pip show package-name

```
C:\Users\nit>pip show numpy
Name: numpy
Version: 1.23.5
Summary: NumPy is the fundamental package for array computing with Python.
Home-page: https://www.numpy.org
Author: Travis E. Oliphant et al.
Author-email:
License: BSD
Location: c:\users\nit\appdata\local\programs\python\python310\lib\site-packa

Requires:
Required-by: matplotlib, wxPython
```

How to access module saved in different location?



sys.path is a list, this list is having the existing path locations.

Object Oriented Programming (OOP)

What is object oriented programming?
Python is object oriented programming language. Object oriented is not language, it is programming paradigm or approach or concept which define set of rules and regulation for organizing data and instructions.

The main objective of object oriented programming is building user defined data types. These data types are build using the following object oriented concepts

1. Encapsulation
2. Polymorphism
3. Inheritance
4. Abstraction
5. Class
6. Object