

Package

package is a collection of modules

package is a folder/directory, which consist of .py file (OR) package is a collection of python programs

grouping set of related modules inside one folder

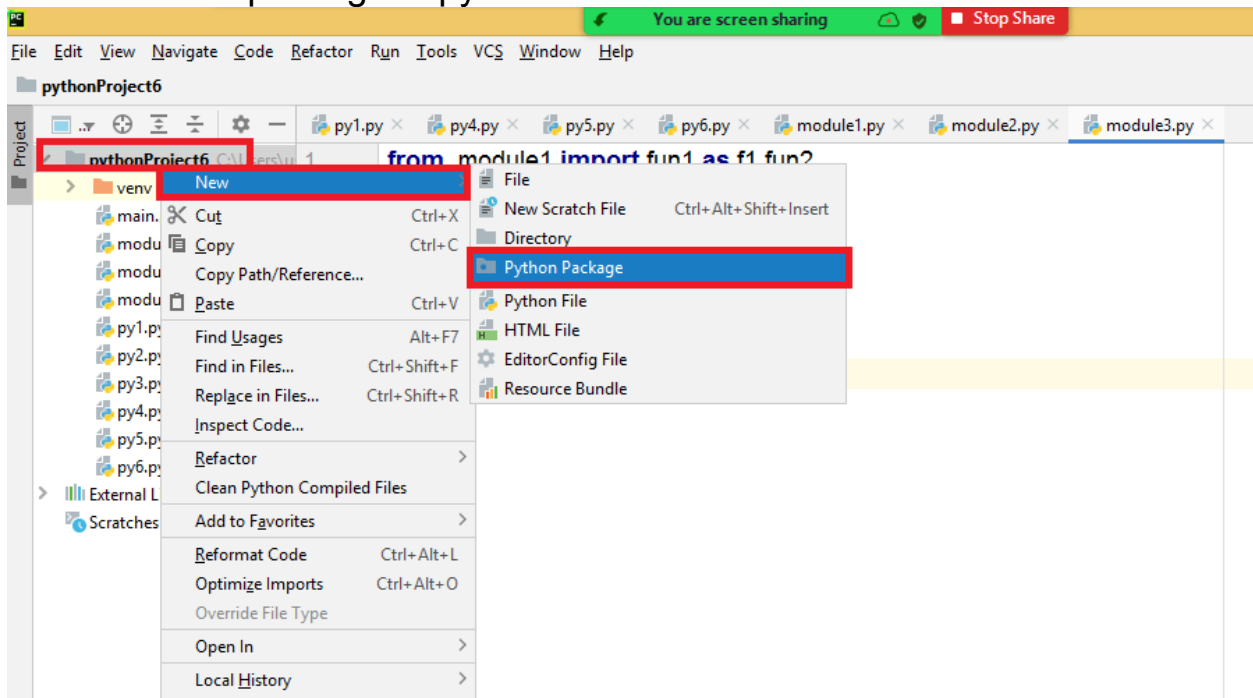
packages are two types

1. Predefined packages
2. User defined packages

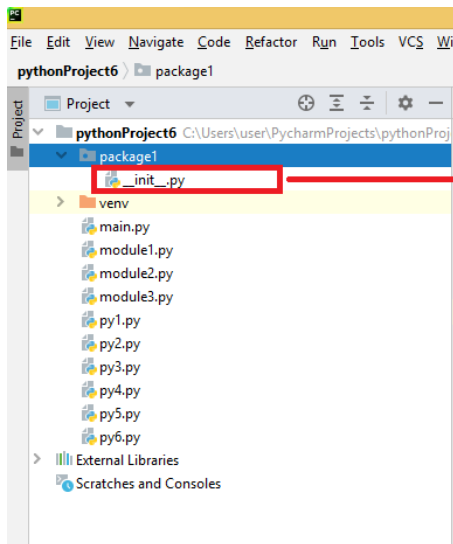
Existing packages are called predefined packages

Eg: numpy, pandas, matplotlib,...

How to create package in pycharm?

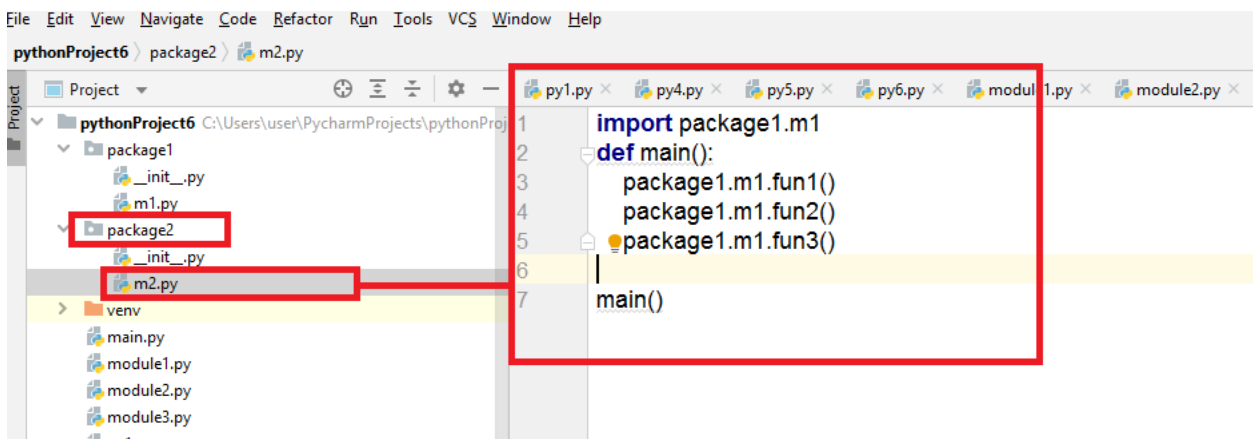
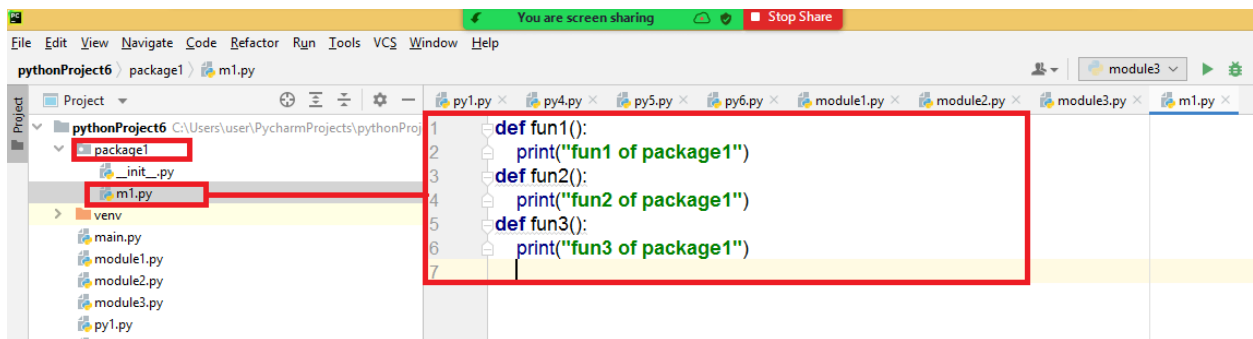


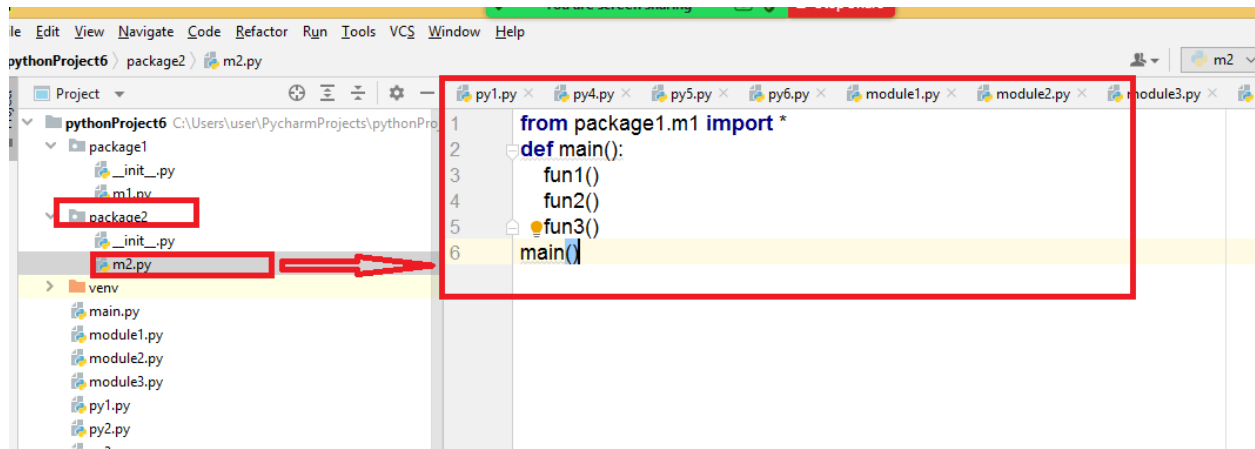
Note: if editor is not provided any option for creating package. We have to create package explicitly by creating folder.



special file or module
it is called as python package
configuration file/module

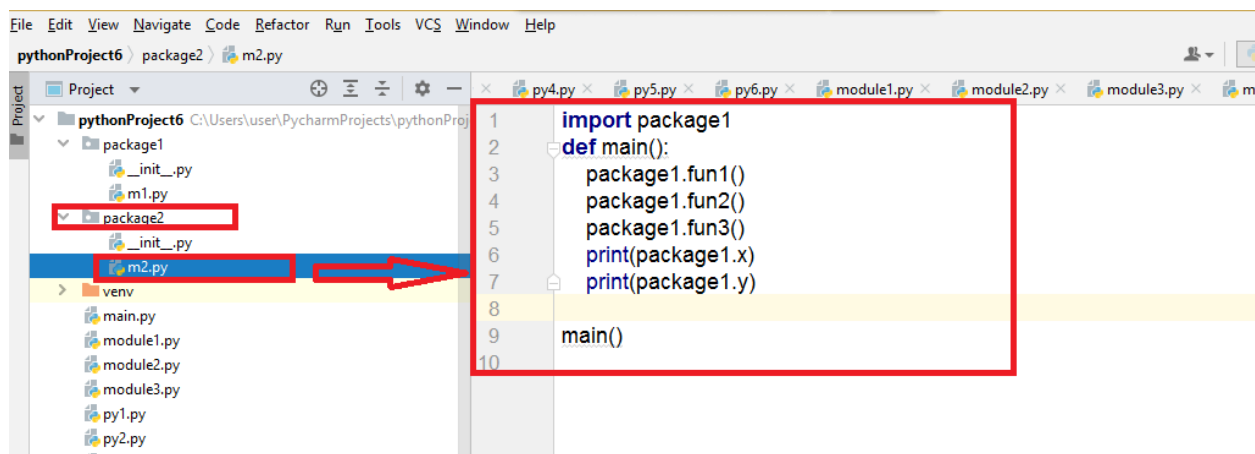
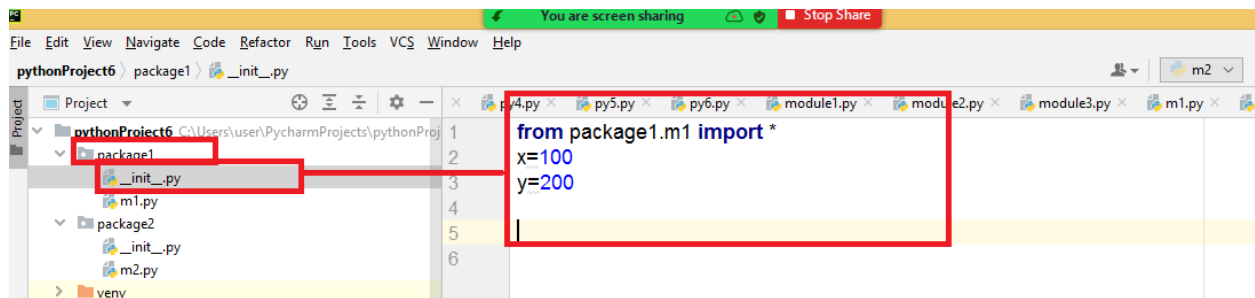
this module/program is executed
automatically whenever package is
imported





__init__.py

__init__.py is called package configuration file. This file is executed automatically whenever package is imported or block of code which has to be executed at the time loading package is written inside __init__.py

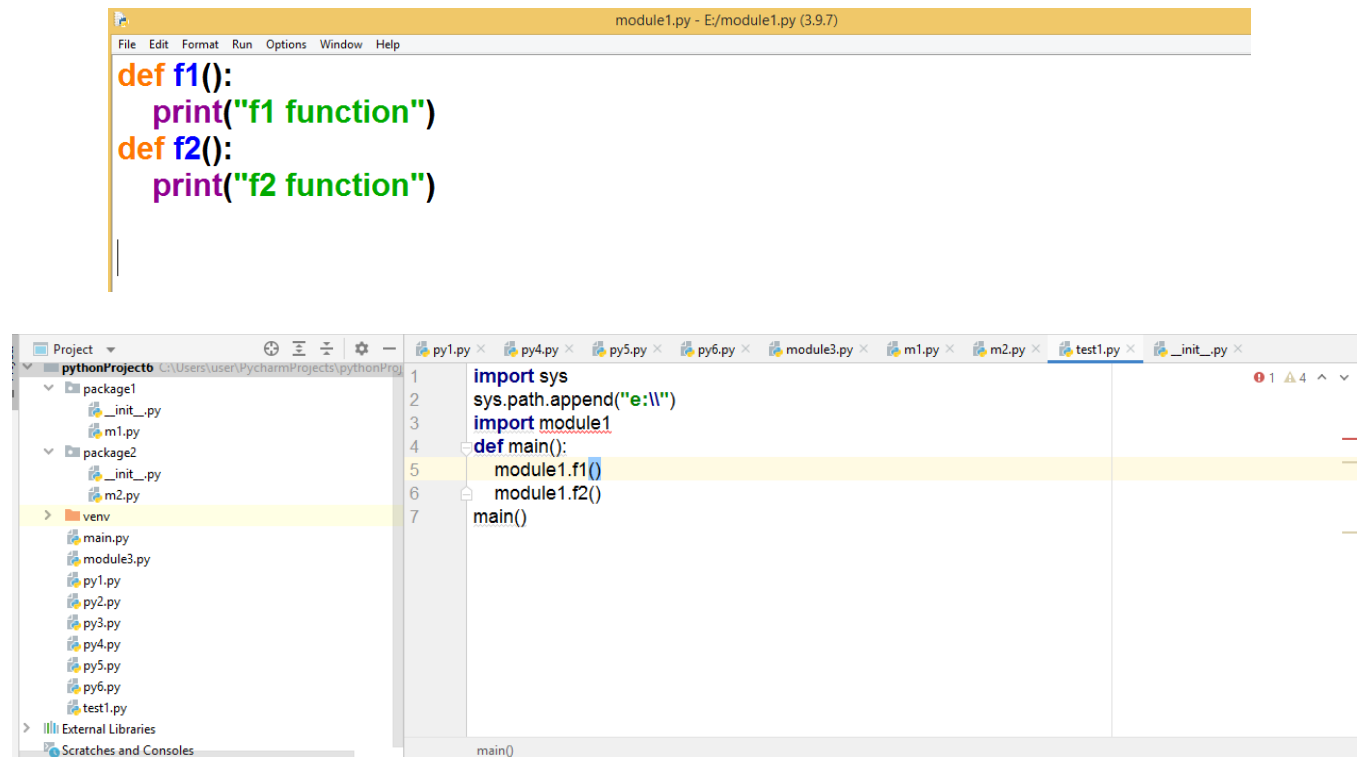


How to access package or module exists in other locations?

sys.path

A list of strings that specifies the search path for modules

1. Create one module with name module1.py
Save this module in one location (e:\\)



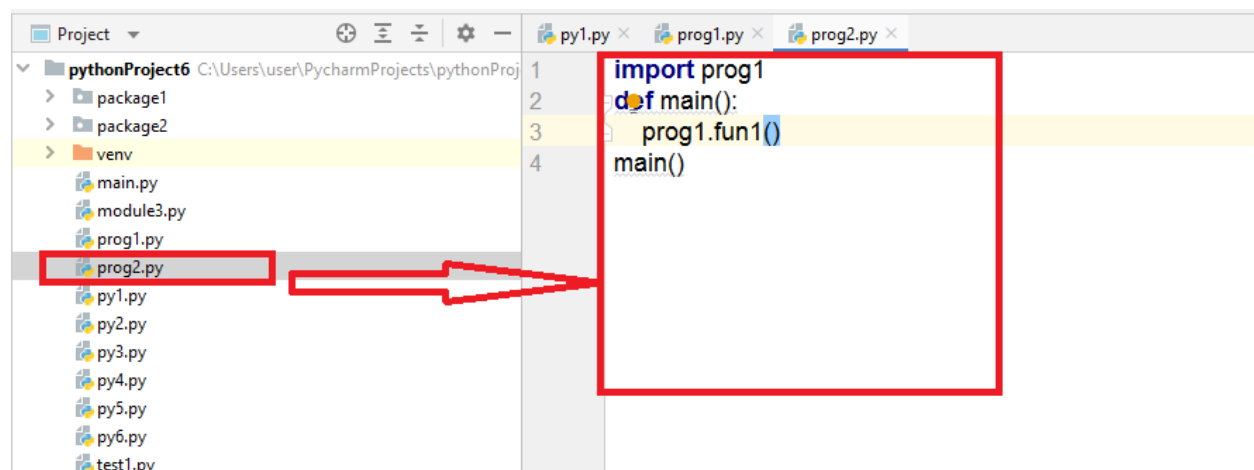
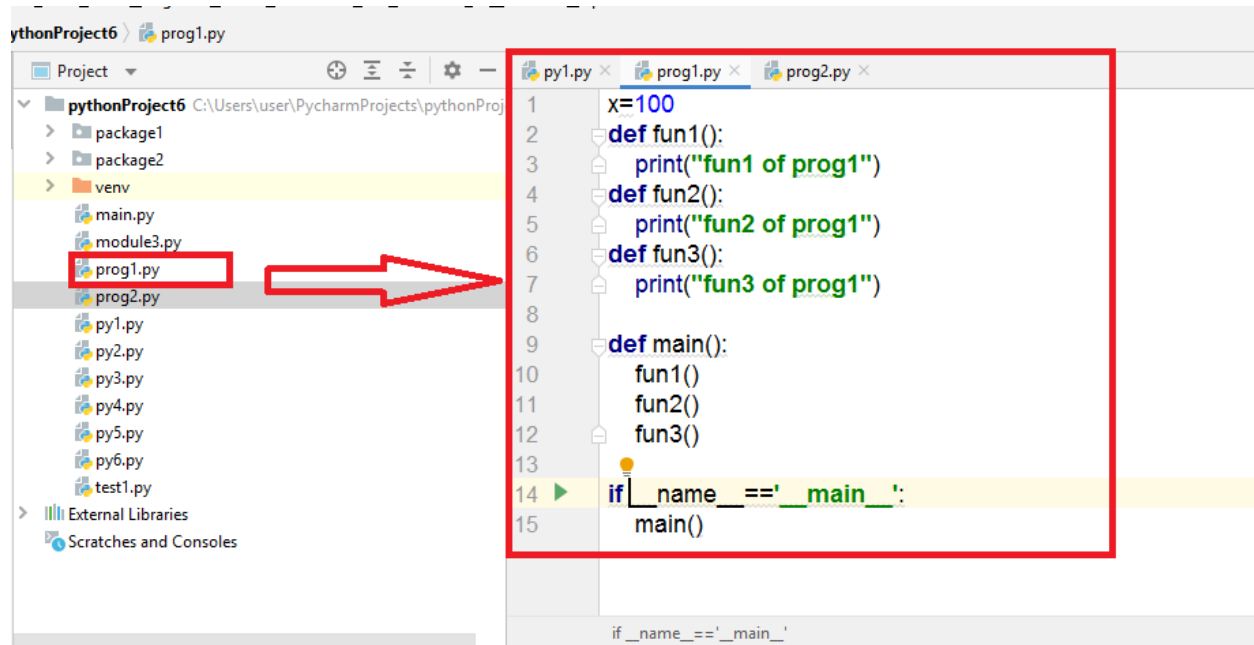
How to import executable module as a reusable module?

`__name__` : it is a predefined variable in python. This variable hold module name. if program is executed as an executable module python runtime assign `__main__` to `__name__` variable

If the module is imported inside another module/program the value `__name__` is given as module name/program name

In order to use executable module as reusable module we have to add one condition

If `__name__ == '__main__':`
Executable statements



How to install predefined packages or libraries?

In order to install predefined packages python provides one tool called "pip". PIP stands for preferred installer program/package. This tool installs packages/libraries that exist in the python package index (www.pypi.org)

"pip" command comes with python software

Syntax:
pip command

commands supported by pip tool

1. Install → installing packages
2. uninstall → uninstalling existing packages
3. freeze → stop using existing packages
4. list → displaying list of packages installed

in pycharm “pip” command is executed from terminal

