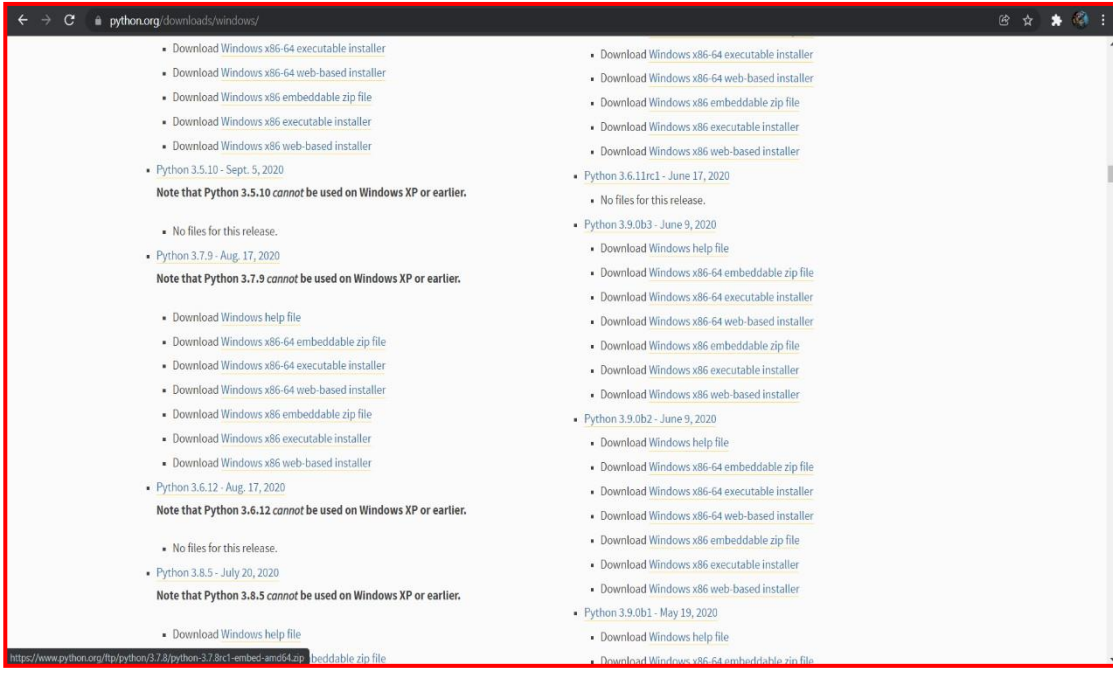<20CE090 >   <Maitrey Jaileshkumar Patel>

Faculty of Technology and Engineering

U & P U. Patel Department of Computer Engineering

Practical List

Academic Year	:	2021-22	Semester	:	4
Course code	:	CE259	Course name	:	Programming in Python

**Note: Practical List is for Students. We need to cover concept require to implement respective practical**

Sr. No.	Aim
1.	Installation & Configuration of Python(**3.6 or 3.7**) and Virtual Environment. Along with its all major editors, IDLE, PyCharm, Anaconda, Jupyter, Interpreter etc. **Note: Do not install the latest version of python due to some backward compatibility issues.** **Please take screenshots of each point mentioned in the assignment and upload .pdf file.**
ANS:-	❖ **Installation & Configuration Python(3.7.9)** ➢ Step 1:- Download .exe file for python 3.7.9 from website https://www.python.org/downloads/windows/

> ➢ Step 2:- Open this .exe file.

> ➢ Make sure that you have tick on checkbox which says Add Python 3.7 to PATH. Then click on Install Now. After clicking installation will start.

> ➢ Step 3:- Now, Open Python 3.7 from start menu and run your code…
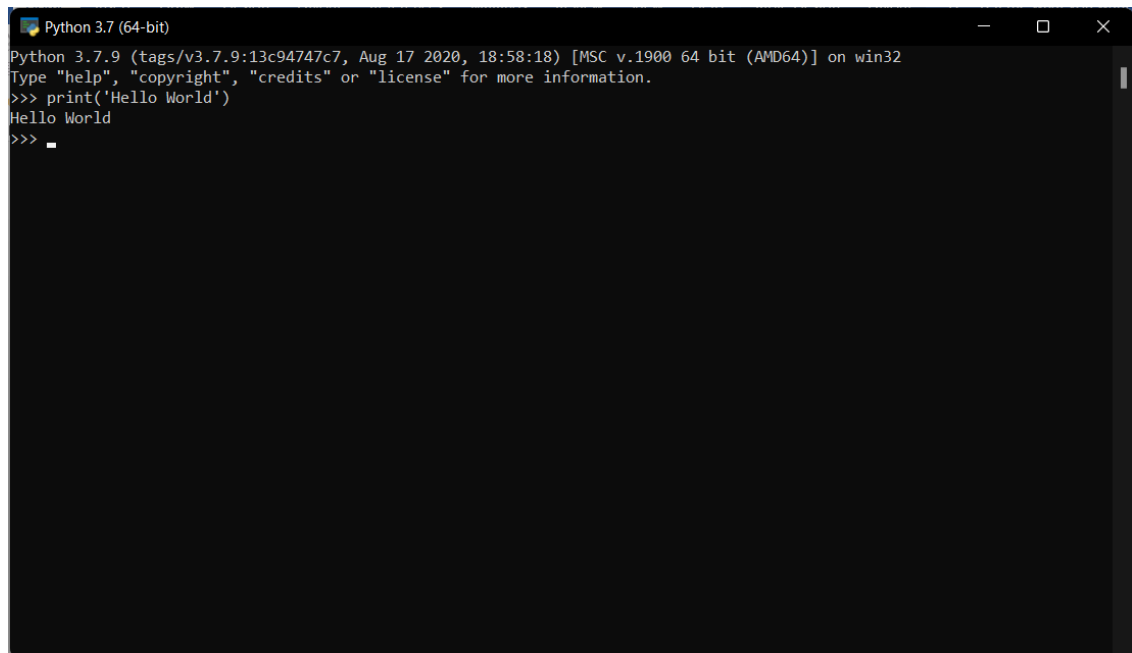
❖ **Create virtual Environment using python -m command**
> ➢ Step 1:- Open the Command Prompt.

> ➢ Step 2:- Go to the directory in which you suppose to create Virtual Environment.

> ➢ Step 3:- Run Command:- *python -m venv Using_python_-m* (Where Using_python_-m is a name of Folder you can change it according to you).

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.22000.318]
(c) Microsoft Corporation. All rights reserved.

D:\Python\Sem-4>python -m venv Maitrey

D:\Python\Sem-4>cd Maitrey \Scripts

D:\Python\Sem-4\Maitrey\Scripts>activate

(Maitrey) D:\Python\Sem-4\Maitrey\Scripts>pip install numpy
Collecting numpy
  Downloading numpy-1.21.5-cp37-cp37m-win_amd64.whl (14.0 MB)
     |                                | 14.0 MB 1.6 MB/s
Installing collected packages: numpy
Successfully installed numpy-1.21.5
WARNING: You are using pip version 20.1.1; however, version 21.3.1 is available.
You should consider upgrading via the 'd:\python\sem-4\maitrey\scripts\python.exe -m pip install --upgrade pip' command.

(Maitrey) D:\Python\Sem-4\Maitrey\Scripts>deactivate
D:\Python\Sem-4\Maitrey\Scripts>_
```

❖ **Create virtual Environment using python package virtualenv and virtualwrapper**

- **Using virtualenv**
  - ➢ Step 1:- Open Command Prompt.

  - ➢ Step 2:- Go to the directory in which you suppose to create Virtual Environment.

  - ➢ Step 3:- Run Command:- *pip install virtualenv*

  - ➢ Step 4:- Run Command:- *virtualenv Using_virtualenv* (Where Using_virtualenv is a name of Folder you can change it according to you).

```
D:\Python\Sem-4>pip install virtualenv
Collecting virtualenv
  Downloading virtualenv-20.10.0-py2.py3-none-any.whl (5.6 MB)
     |                                | 5.6 MB 819 kB/s
Collecting platformdirs<3,>=2
  Downloading platformdirs-2.4.0-py3-none-any.whl (14 kB)
Collecting distlib<1,>=0.3.1
  Downloading distlib-0.3.4-py2.py3-none-any.whl (461 kB)
     |                                | 461 kB 3.3 MB/s
Collecting six<2,>=1.9.0
  Downloading six-1.16.0-py2.py3-none-any.whl (11 kB)
Collecting filelock<4,>=3.2
  Downloading filelock-3.4.0-py3-none-any.whl (9.8 kB)
Collecting importlib-metadata>=0.12; python_version < "3.8"
  Downloading importlib_metadata-4.10.0-py3-none-any.whl (17 kB)
Collecting backports.entry-points-selectable>=1.0.4
  Downloading backports.entry_points_selectable-1.1.1-py2.py3-none-any.whl (6.2 kB)
Collecting typing-extensions>=3.6.4; python_version < "3.8"
  Downloading typing_extensions-4.0.1-py3-none-any.whl (22 kB)
Collecting zipp>=0.5
  Downloading zipp-3.6.0-py3-none-any.whl (5.3 kB)
Installing collected packages: platformdirs, distlib, six, filelock, typing-extensions, zipp, importlib-metadata, backports.entry-points-selectable, virtualenv
Successfully installed backports.entry-points-selectable-1.1.1 distlib-0.3.4 filelock-3.4.0 importlib-metadata-4.10.0 platformdirs-2.4.0 six-1.16.0 typing-extensions-4.0.1 virtualenv-20.10.0 zipp-3.6.0
WARNING: You are using pip version 20.1.1; however, version 21.3.1 is available.
You should consider upgrading via the 'c:\users\maitr\appdata\local\programs\python\python37\python.exe -m pip install --upgrade pip' command.

D:\Python\Sem-4>virtualenv Patel
created virtual environment CPython3.7.9.final.0-64 in 5187ms
  creator CPython3Windows(dest=D:\Python\Sem-4\Patel, clear=False, no_vcs_ignore=False, global=False)
  seeder FromAppData(download=False, pip=bundle, setuptools=bundle, wheel=bundle, via=copy, app_data_dir=C:\Users\maitr\AppData\Local\pypa\virtualenv)
    added seed packages: pip==21.3.1, setuptools==58.3.0, wheel==0.37.0
  activators BashActivator,BatchActivator,FishActivator,NushellActivator,PowerShellActivator,PythonActivator

D:\Python\Sem-4>cd Patel\Scripts

D:\Python\Sem-4\Patel\Scripts>activate

(Patel) D:\Python\Sem-4\Patel\Scripts>pip install numpy
Collecting numpy
  Using cached numpy-1.21.5-cp37-cp37m-win_amd64.whl (14.0 MB)
Installing collected packages: numpy
Successfully installed numpy-1.21.5

(Patel) D:\Python\Sem-4\Patel\Scripts>deactive
'deactive' is not recognized as an internal or external command,
operable program or batch file.

(Patel) D:\Python\Sem-4\Patel\Scripts>deactivate
```

- **Using virtualwrapper**

❖ **Create virtual Environment in Anaconda, PyCharm IDE and VS Code IDE**

- **In Anaconda**

Step 1 : Open Anaconda Navigator.

Step 2 : Press "Create New environment" button.

Step 3 : Enter Name of the environment.

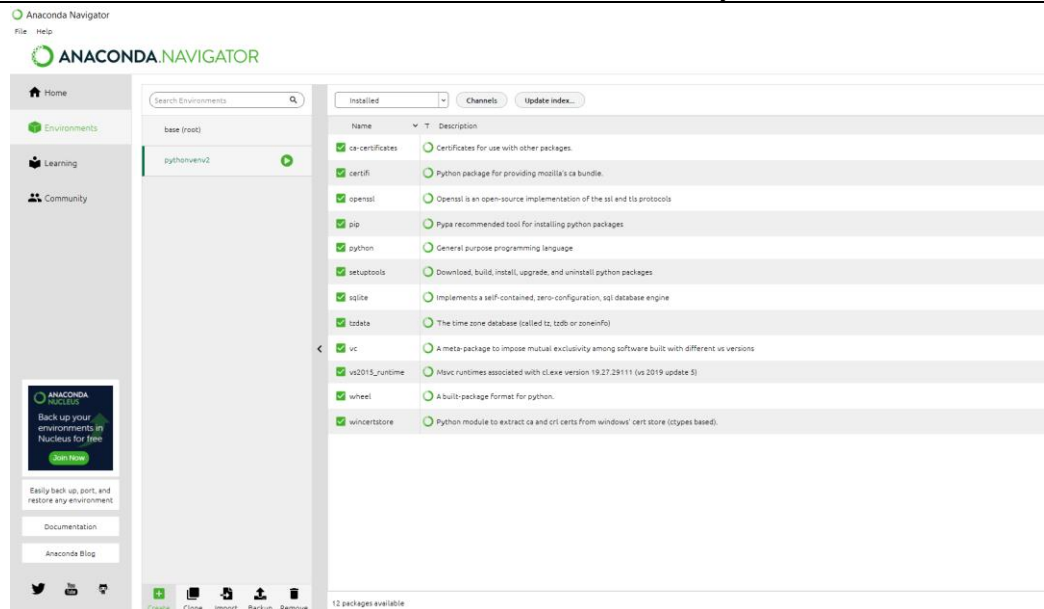Step 4 : Select Python version and press create.

Step 5 : New Environment is create. You can see below.

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- **In Pycharm**
  Step 1 : Install Pycharm.
  Step 2 : Go to create project.
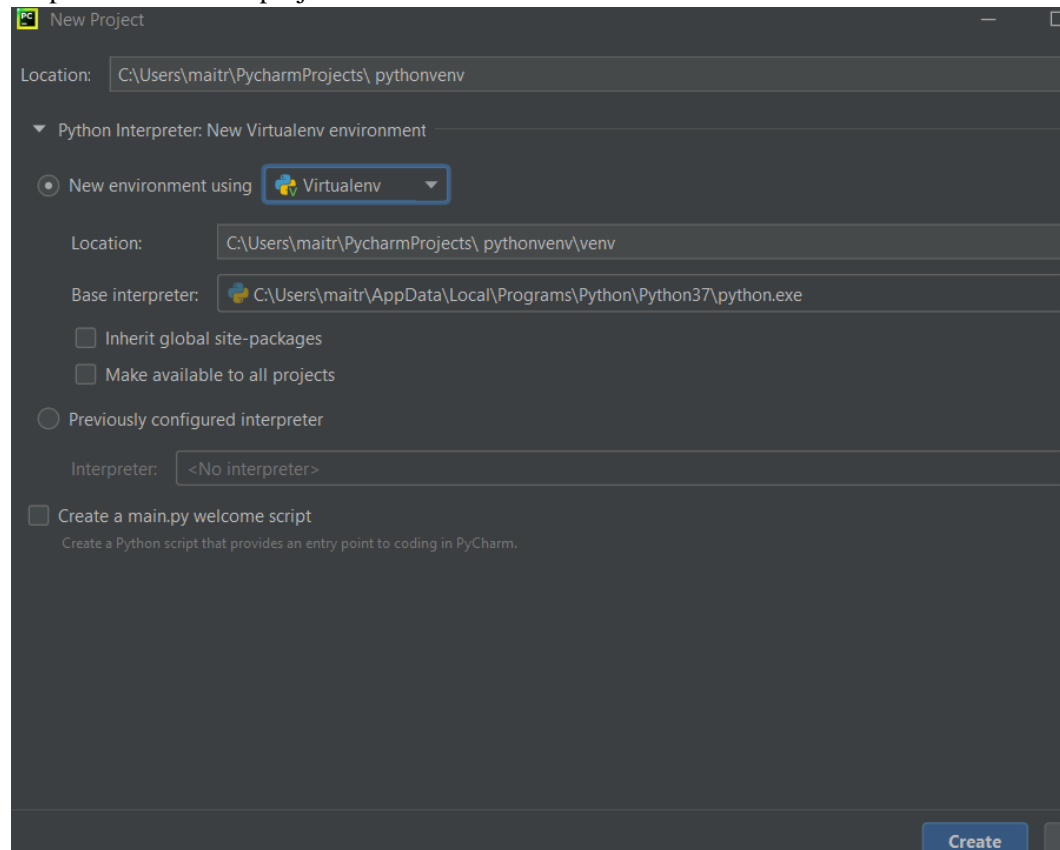
Step 3 : Click on Virtualenv in New environment select Interpreter according to your python version and Press Create.
Step 4 : You can see scripts folder in left corner of your pycharm screen also can see from previous applied path in environment set up.

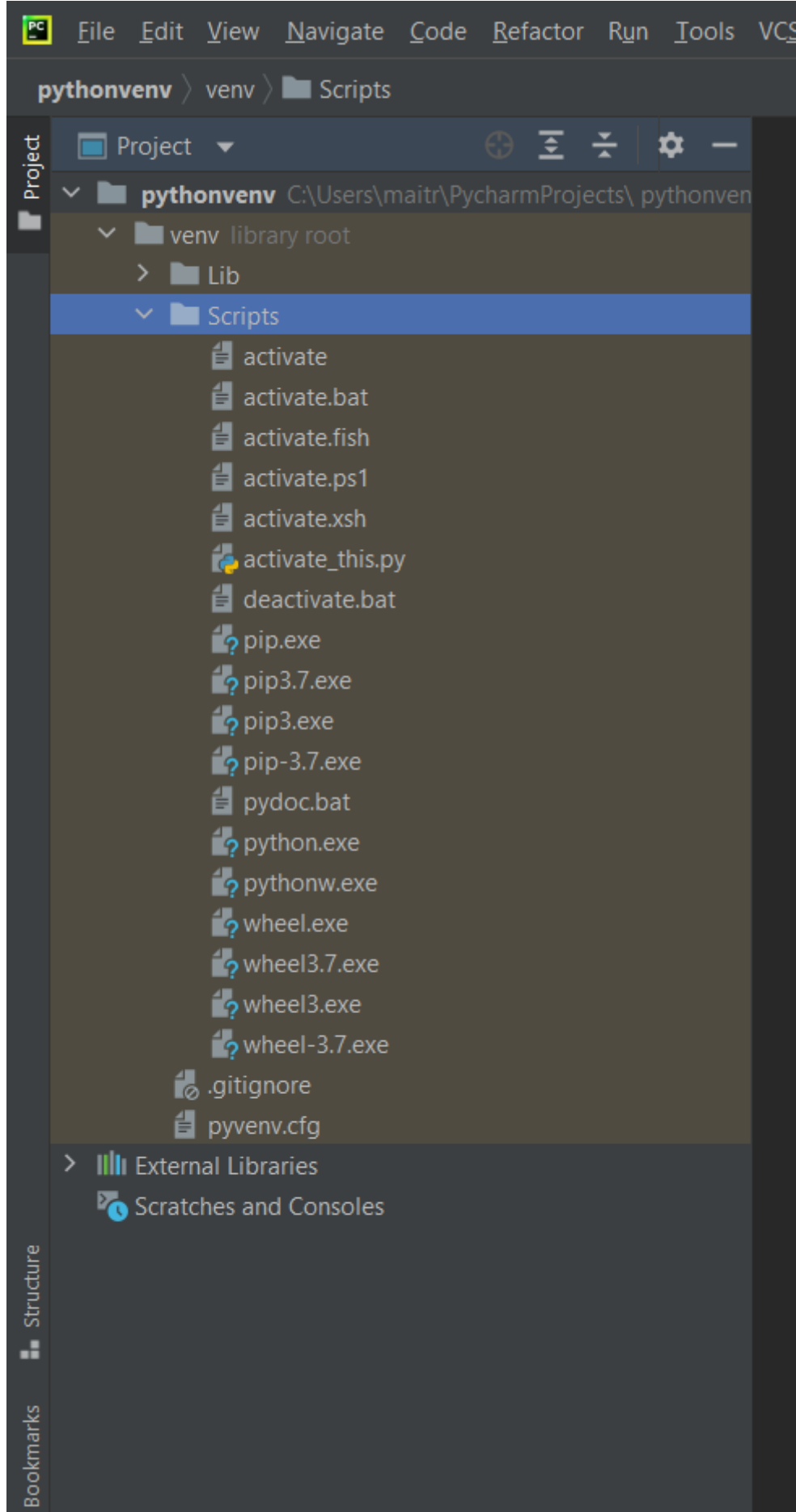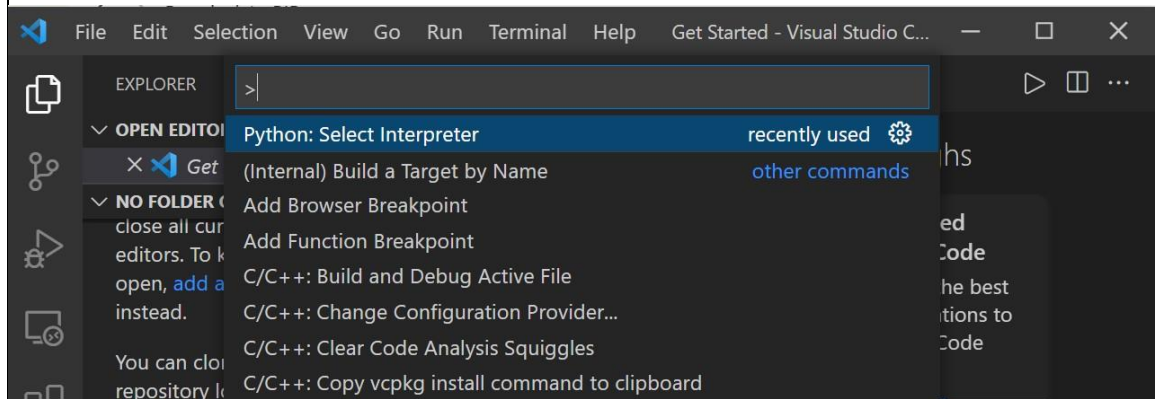<20CE090 >   <Maitrey Jaileshkumar Patel>

- **In VS Code**

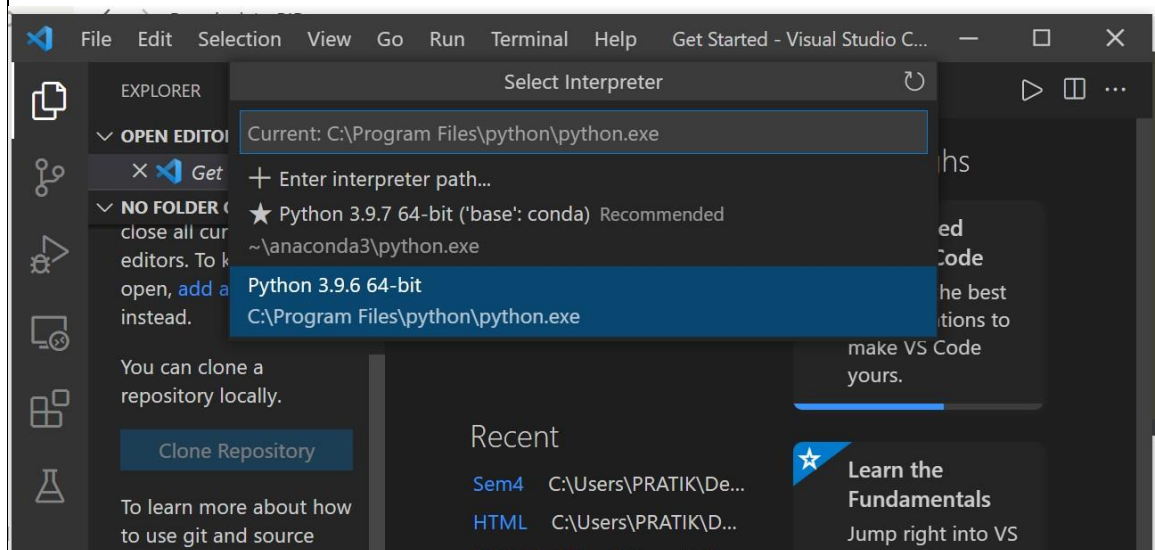<20CE090 >   <Maitrey Jaileshkumar Patel>

Step 1 : Open VS code IDE and press : ctrl + shift + p

Step 2 : Search python : select interpreter and click on it.
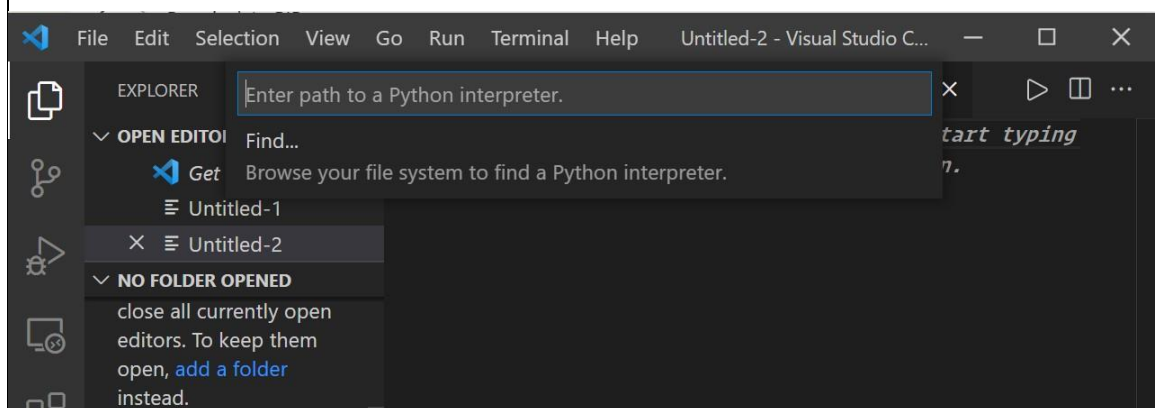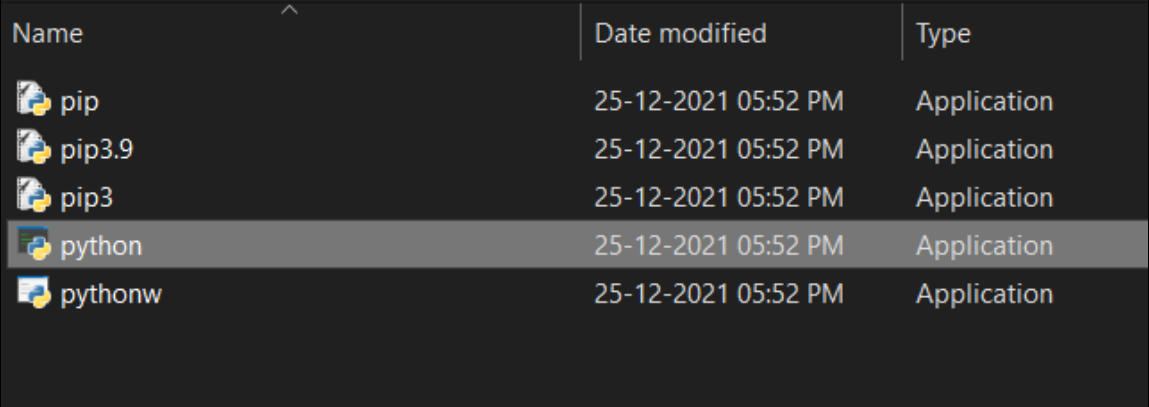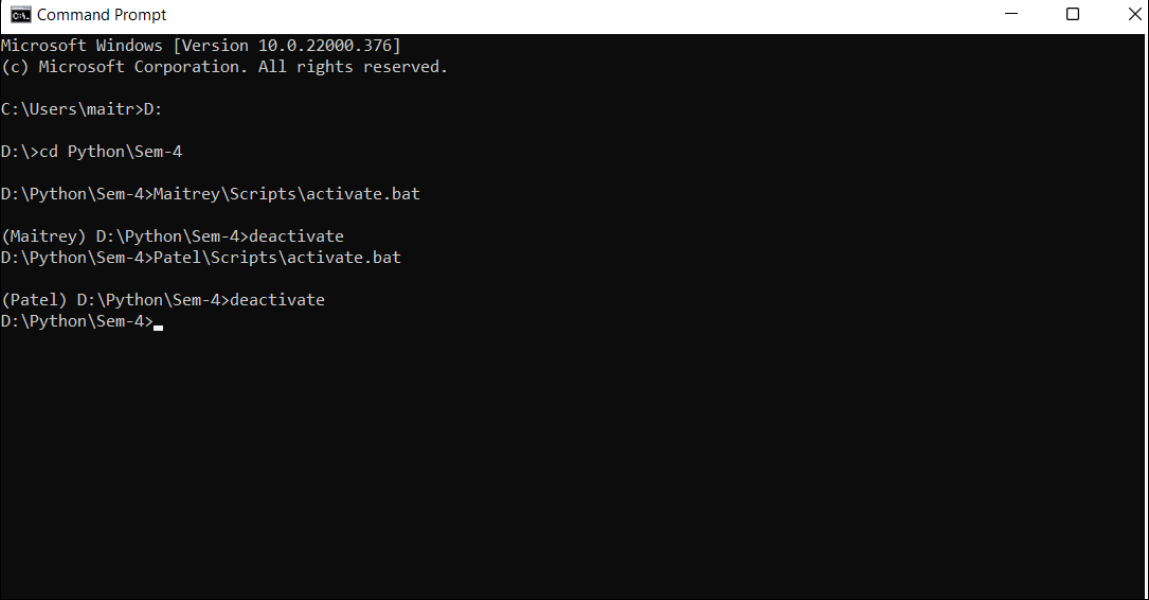

Step 3 : Click on + Enter interpreter path...

Step 4 : Click on find

Step 5 : Select folder which have environment

Step 6 : Enter in scripts folder and click python application.

Name	Date modified	Type
pip	25-12-2021 05:52 PM	Application
pip3.9	25-12-2021 05:52 PM	Application
pip3	25-12-2021 05:52 PM	Application
python	25-12-2021 05:52 PM	Application
pythonw	25-12-2021 05:52 PM	Application

2. **Switch between virtual environment using activate and deactivate option.**

Using   command in script directory we can activate our virtual environment.

Using   command in script directory we can deactivate our virtual environment.

```
Command Prompt                                                 —   □   ×
Microsoft Windows [Version 10.0.22000.376]
(c) Microsoft Corporation. All rights reserved.

C:\Users\maitr>D:

D:\>cd Python\Sem-4

D:\Python\Sem-4>Maitrey\Scripts\activate.bat

(Maitrey) D:\Python\Sem-4>deactivate
D:\Python\Sem-4>Patel\Scripts\activate.bat

(Patel) D:\Python\Sem-4>deactivate
D:\Python\Sem-4>_
```

3 **List all virtual environment :**

Open Command Prompt and enter conda env list

```
Anaconda Prompt (anaconda3)                                    —   □   ×

(base) C:\Users\maitr>conda env list
# conda environments:
#
base                  *  C:\Users\maitr\anaconda3
pythonvenv2              C:\Users\maitr\anaconda3\envs\pythonvenv2


(base) C:\Users\maitr>
```