



Faculty of Technology and Engineering

U & P U. Patel Department of Computer Engineering

Date: 01 / 12 / 2021

Practical List

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

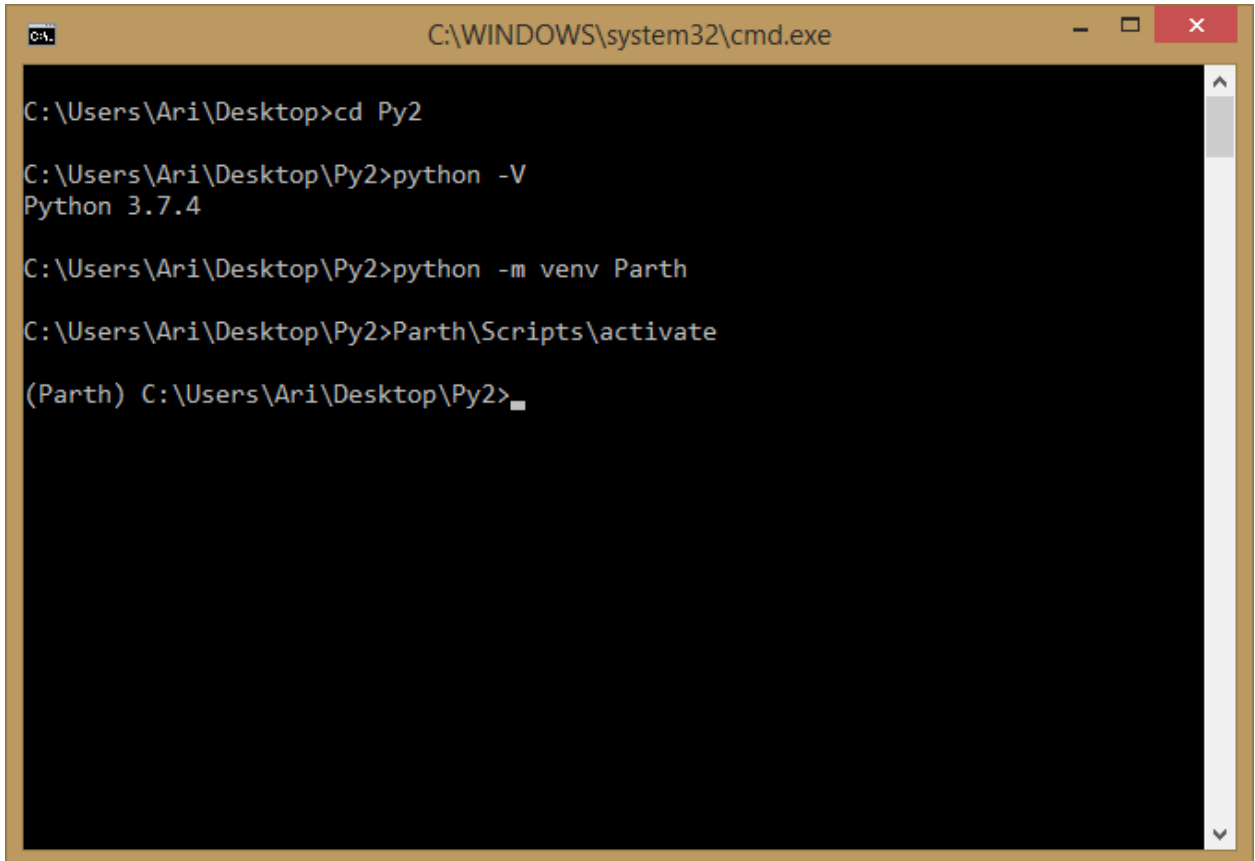
Note: Practical List is for Students. We need to cover concept require to implement respective practical

Sr. No.	Aim
1.	<p>Installation & Configuration of Python(3.6 or 3.7) and Virtual Environment. Along with its all major editors, IDLE, Pycharm, Anaconda, Jupyter, Interpreter etc.</p> <p>Note: Do not install the latest version of python due to some backward compatibility issues.</p> <p>Please take screenshots of each point mentioned in the assignment and upload .pdf file.</p>

1. Installation & Configuration Python(3.6 or 3.7)

```

C:\Users\Ari>python -V
Python 3.7.4
C:\Users\Ari>
  
```

2. Create virtual Environment using python -m command

```
C:\WINDOWS\system32\cmd.exe

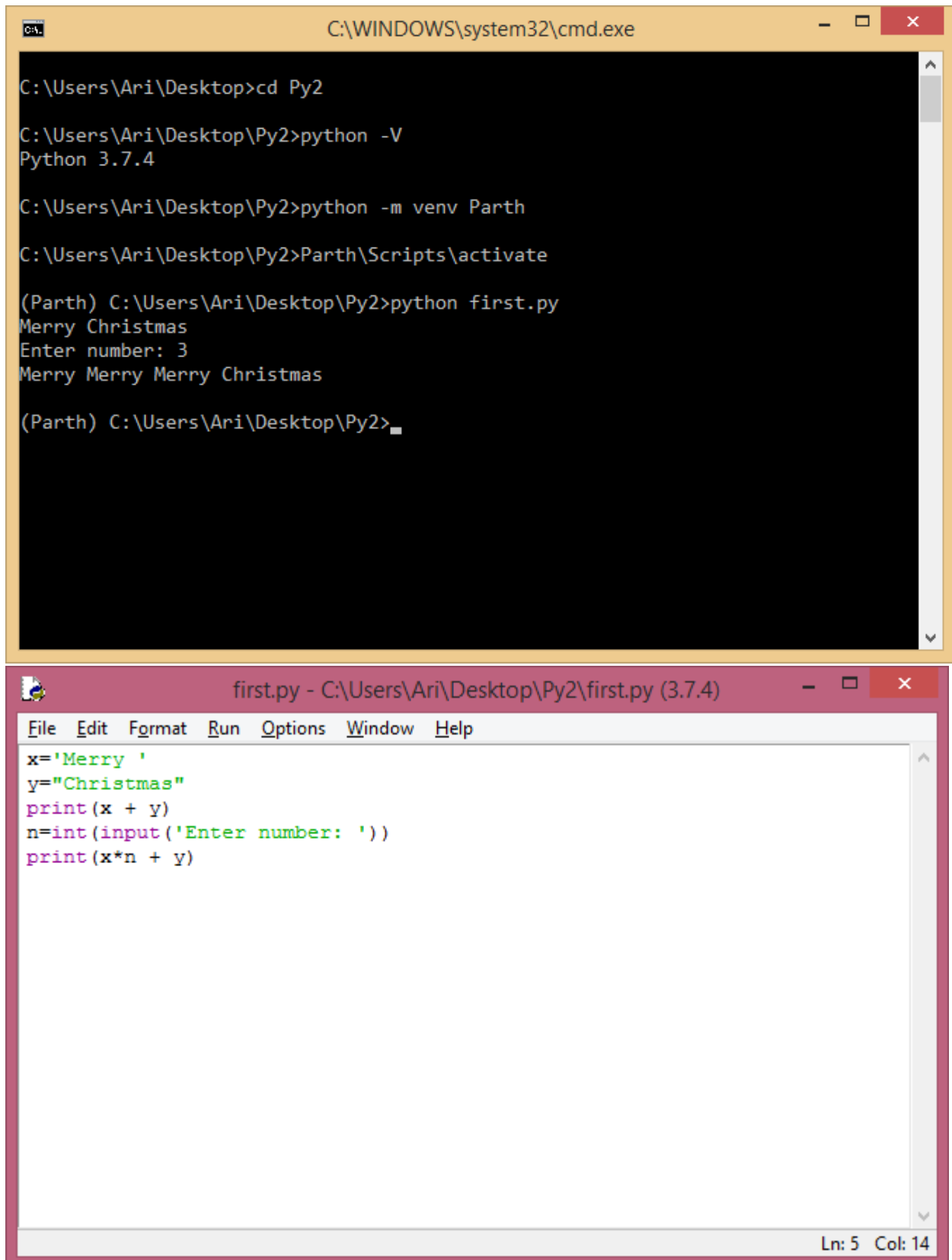
C:\Users\Ari\Desktop>cd Py2

C:\Users\Ari\Desktop\Py2>python -V
Python 3.7.4

C:\Users\Ari\Desktop\Py2>python -m venv Parth

C:\Users\Ari\Desktop\Py2>Parth\Scripts\activate

(Parth) C:\Users\Ari\Desktop\Py2>
```



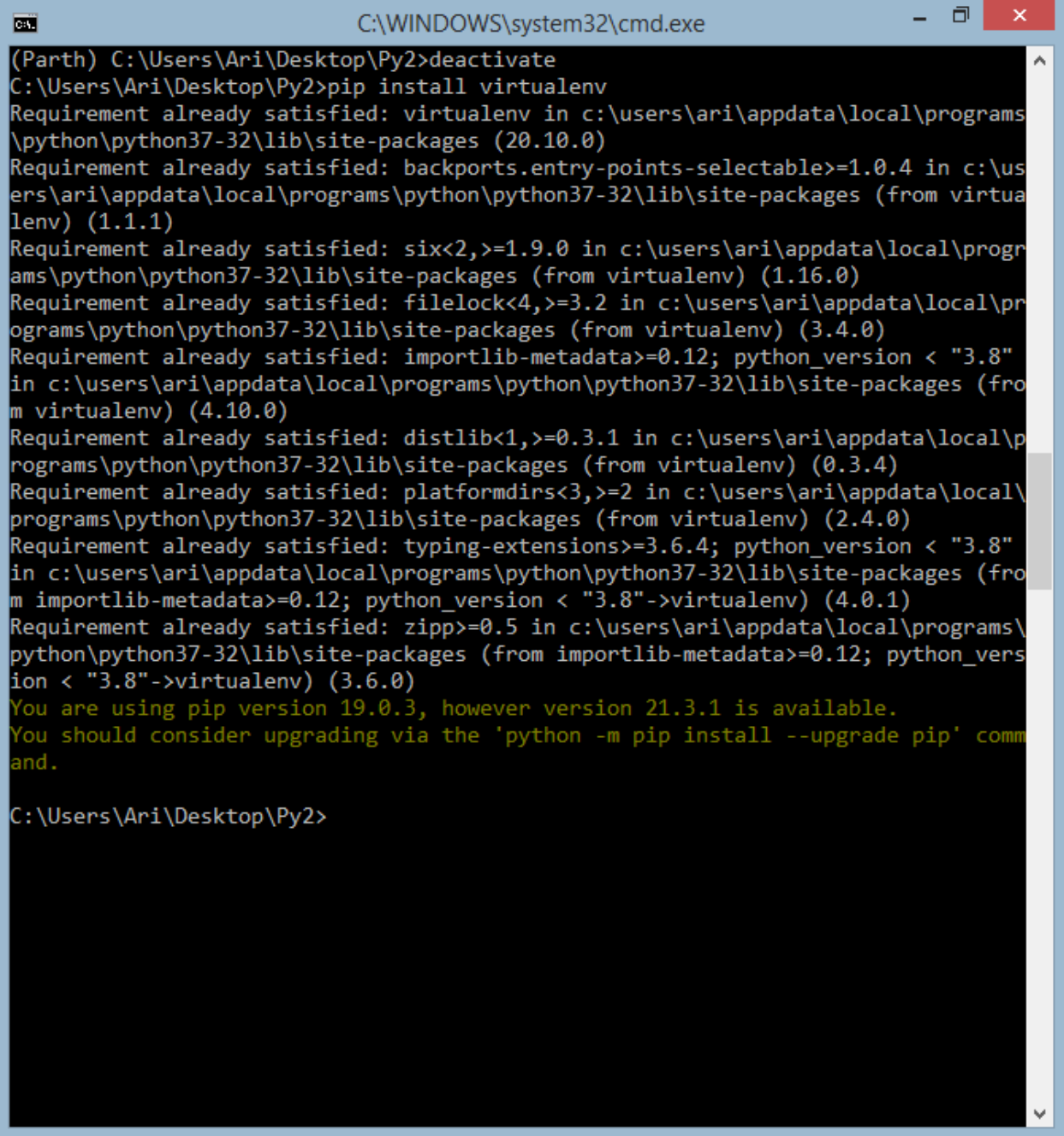
The image shows two windows from a Windows operating system. The top window is a command prompt titled "C:\WINDOWS\system32\cmd.exe". It shows the following commands and output:

```
C:\Users\Ari\Desktop>cd Py2
C:\Users\Ari\Desktop\Py2>python -V
Python 3.7.4
C:\Users\Ari\Desktop\Py2>python -m venv Parth
C:\Users\Ari\Desktop\Py2>Parth\Scripts\activate
(Parth) C:\Users\Ari\Desktop\Py2>python first.py
Merry Christmas
Enter number: 3
Merry Merry Merry Christmas
(Parth) C:\Users\Ari\Desktop\Py2>
```

The bottom window is a Python IDE titled "first.py - C:\Users\Ari\Desktop\Py2\first.py (3.7.4)". It shows the following code:

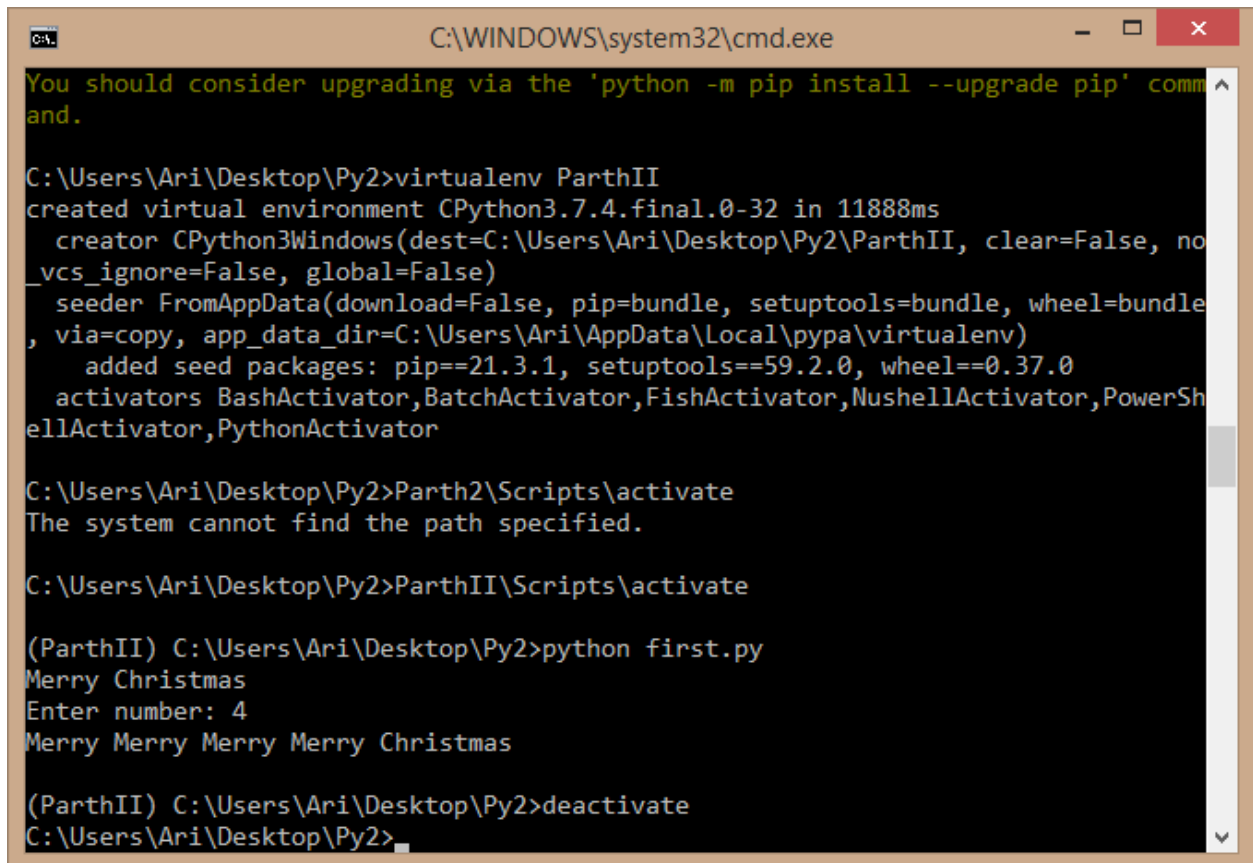
```
x='Merry '
y="Christmas"
print(x + y)
n=int(input('Enter number: '))
print(x*n + y)
```

The IDE has a menu bar with File, Edit, Format, Run, Options, Window, and Help. The status bar at the bottom right indicates "Ln: 5 Col: 14".

3. Create virtual Environment using python package virtualenv and virtualwrapper.

```
C:\WINDOWS\system32\cmd.exe
(Parth) C:\Users\Ari\Desktop\Py2>deactivate
C:\Users\Ari\Desktop\Py2>pip install virtualenv
Requirement already satisfied: virtualenv in c:\users\ari\appdata\local\programs\python\python37-32\lib\site-packages (20.10.0)
Requirement already satisfied: backports.entry-points-selectable>=1.0.4 in c:\users\ari\appdata\local\programs\python\python37-32\lib\site-packages (from virtualenv) (1.1.1)
Requirement already satisfied: six<2,>=1.9.0 in c:\users\ari\appdata\local\programs\python\python37-32\lib\site-packages (from virtualenv) (1.16.0)
Requirement already satisfied: filelock<4,>=3.2 in c:\users\ari\appdata\local\programs\python\python37-32\lib\site-packages (from virtualenv) (3.4.0)
Requirement already satisfied: importlib-metadata>=0.12; python_version < "3.8" in c:\users\ari\appdata\local\programs\python\python37-32\lib\site-packages (from virtualenv) (4.10.0)
Requirement already satisfied: distlib<1,>=0.3.1 in c:\users\ari\appdata\local\programs\python\python37-32\lib\site-packages (from virtualenv) (0.3.4)
Requirement already satisfied: platformdirs<3,>=2 in c:\users\ari\appdata\local\programs\python\python37-32\lib\site-packages (from virtualenv) (2.4.0)
Requirement already satisfied: typing-extensions>=3.6.4; python_version < "3.8" in c:\users\ari\appdata\local\programs\python\python37-32\lib\site-packages (from importlib-metadata>=0.12; python_version < "3.8"->virtualenv) (4.0.1)
Requirement already satisfied: zipp>=0.5 in c:\users\ari\appdata\local\programs\python\python37-32\lib\site-packages (from importlib-metadata>=0.12; python_version < "3.8"->virtualenv) (3.6.0)
You are using pip version 19.0.3, however version 21.3.1 is available.
You should consider upgrading via the 'python -m pip install --upgrade pip' command.

C:\Users\Ari\Desktop\Py2>
```



```
C:\WINDOWS\system32\cmd.exe

You should consider upgrading via the 'python -m pip install --upgrade pip' command.

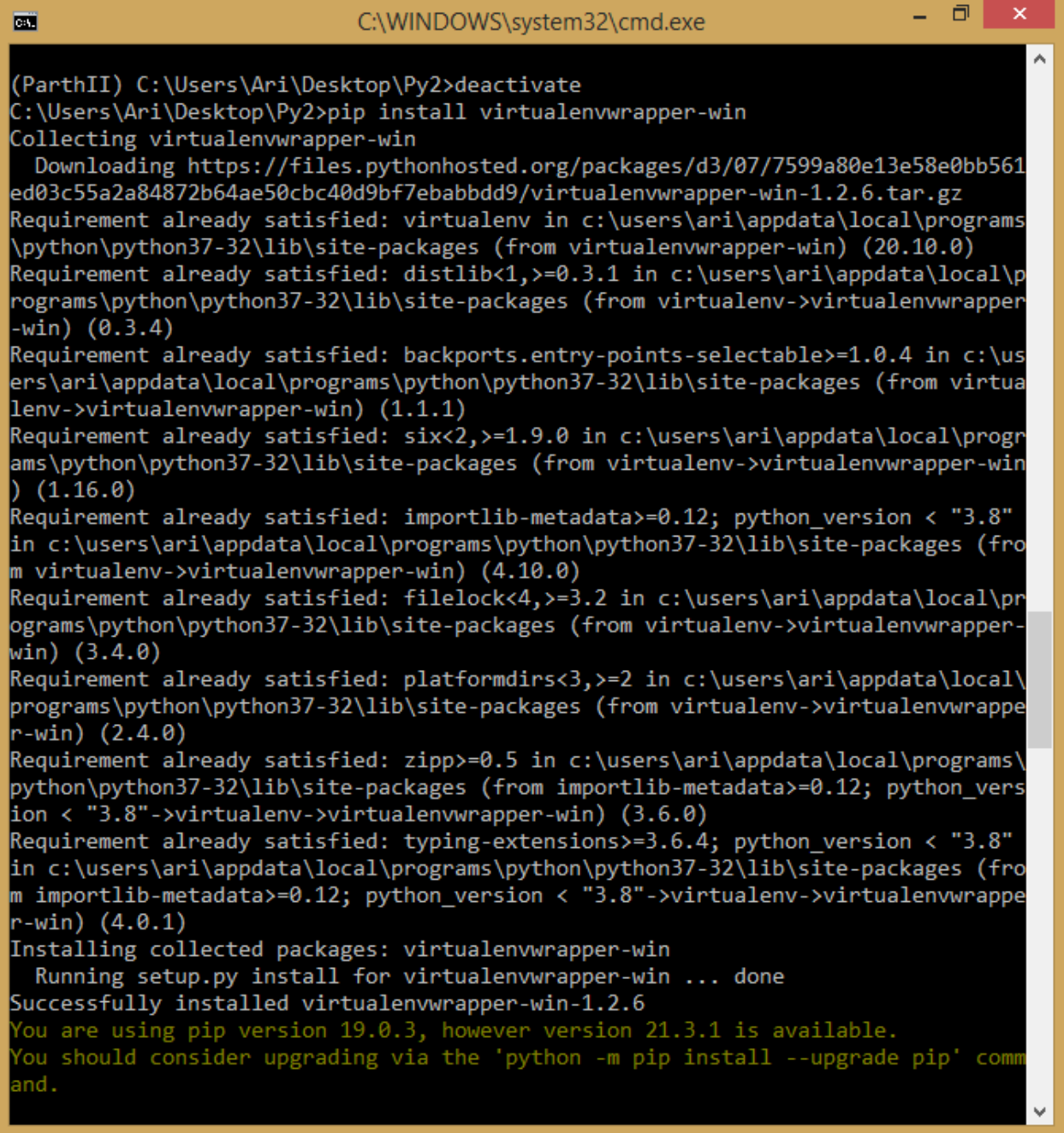
C:\Users\Ari\Desktop\Py2>virtualenv ParthII
created virtual environment CPython3.7.4.final.0-32 in 11888ms
  creator CPython3Windows(dest=C:\Users\Ari\Desktop\Py2\ParthII, clear=False, no
_vcs_ignore=False, global=False)
  seeder FromAppData(download=False, pip=bundle, setuptools=bundle, wheel=bundle
, via=copy, app_data_dir=C:\Users\Ari\AppData\Local\pypa\virtualenv)
  added seed packages: pip==21.3.1, setuptools==59.2.0, wheel==0.37.0
  activators BashActivator,BatchActivator,FishActivator,NushellActivator,PowerSh
ellActivator,PythonActivator

C:\Users\Ari\Desktop\Py2>Parth2\Scripts\activate
The system cannot find the path specified.

C:\Users\Ari\Desktop\Py2>ParthII\Scripts\activate

(ParthII) C:\Users\Ari\Desktop\Py2>python first.py
Merry Christmas
Enter number: 4
Merry Merry Merry Merry Christmas

(ParthII) C:\Users\Ari\Desktop\Py2>deactivate
C:\Users\Ari\Desktop\Py2>
```



```
C:\WINDOWS\system32\cmd.exe

(ParthII) C:\Users\Ari\Desktop\Py2>deactivate
C:\Users\Ari\Desktop\Py2>pip install virtualenvwrapper-win
Collecting virtualenvwrapper-win
  Downloading https://files.pythonhosted.org/packages/d3/07/7599a80e13e58e0bb561ed03c55a2a84872b64ae50cbc40d9bf7ebabdd9/virtualenvwrapper-win-1.2.6.tar.gz
Requirement already satisfied: virtualenv in c:\users\ari\appdata\local\programs\python\python37-32\lib\site-packages (from virtualenvwrapper-win) (20.10.0)
Requirement already satisfied: distlib<1,>=0.3.1 in c:\users\ari\appdata\local\programs\python\python37-32\lib\site-packages (from virtualenv->virtualenvwrapper-win) (0.3.4)
Requirement already satisfied: backports.entry-points-selectable>=1.0.4 in c:\users\ari\appdata\local\programs\python\python37-32\lib\site-packages (from virtualenv->virtualenvwrapper-win) (1.1.1)
Requirement already satisfied: six<2,>=1.9.0 in c:\users\ari\appdata\local\programs\python\python37-32\lib\site-packages (from virtualenv->virtualenvwrapper-win) (1.16.0)
Requirement already satisfied: importlib-metadata>=0.12; python_version < "3.8" in c:\users\ari\appdata\local\programs\python\python37-32\lib\site-packages (from virtualenv->virtualenvwrapper-win) (4.10.0)
Requirement already satisfied: filelock<4,>=3.2 in c:\users\ari\appdata\local\programs\python\python37-32\lib\site-packages (from virtualenv->virtualenvwrapper-win) (3.4.0)
Requirement already satisfied: platformdirs<3,>=2 in c:\users\ari\appdata\local\programs\python\python37-32\lib\site-packages (from virtualenv->virtualenvwrapper-win) (2.4.0)
Requirement already satisfied: zipp>=0.5 in c:\users\ari\appdata\local\programs\python\python37-32\lib\site-packages (from importlib-metadata>=0.12; python_version < "3.8"->virtualenv->virtualenvwrapper-win) (3.6.0)
Requirement already satisfied: typing-extensions>=3.6.4; python_version < "3.8" in c:\users\ari\appdata\local\programs\python\python37-32\lib\site-packages (from importlib-metadata>=0.12; python_version < "3.8"->virtualenv->virtualenvwrapper-win) (4.0.1)
Installing collected packages: virtualenvwrapper-win
  Running setup.py install for virtualenvwrapper-win ... done
Successfully installed virtualenvwrapper-win-1.2.6
You are using pip version 19.0.3, however version 21.3.1 is available.
You should consider upgrading via the 'python -m pip install --upgrade pip' command.
```

```
C:\WINDOWS\system32\cmd.exe

C:\Users\Ari\Desktop\Py2>mkvirtualenv ParthIII
C:\Users\Ari\Envs is not a directory, creating
created virtual environment CPython3.7.4.final.0-32 in 6563ms
  creator CPython3Windows(dest=C:\Users\Ari\Envs\ParthIII, clear=False, no_vcs_i
  gnore=False, global=False)
  seeder FromAppData(download=False, pip=bundle, setuptools=bundle, wheel=bundle
, via=copy, app_data_dir=C:\Users\Ari\AppData\Local\pypa\virtualenv)
    added seed packages: pip==21.3.1, setuptools==59.2.0, wheel==0.37.0
    activators BashActivator,BatchActivator,FishActivator,NushellActivator,PowerSh
ellActivator,PythonActivator

((ParthIII) ) C:\Users\Ari\Desktop\Py2>whereis ParthIII

((ParthIII) ) C:\Users\Ari\Desktop\Py2>
```

```
C:\WINDOWS\system32\cmd.exe

C:\Users\Ari\Desktop\Py2>workon

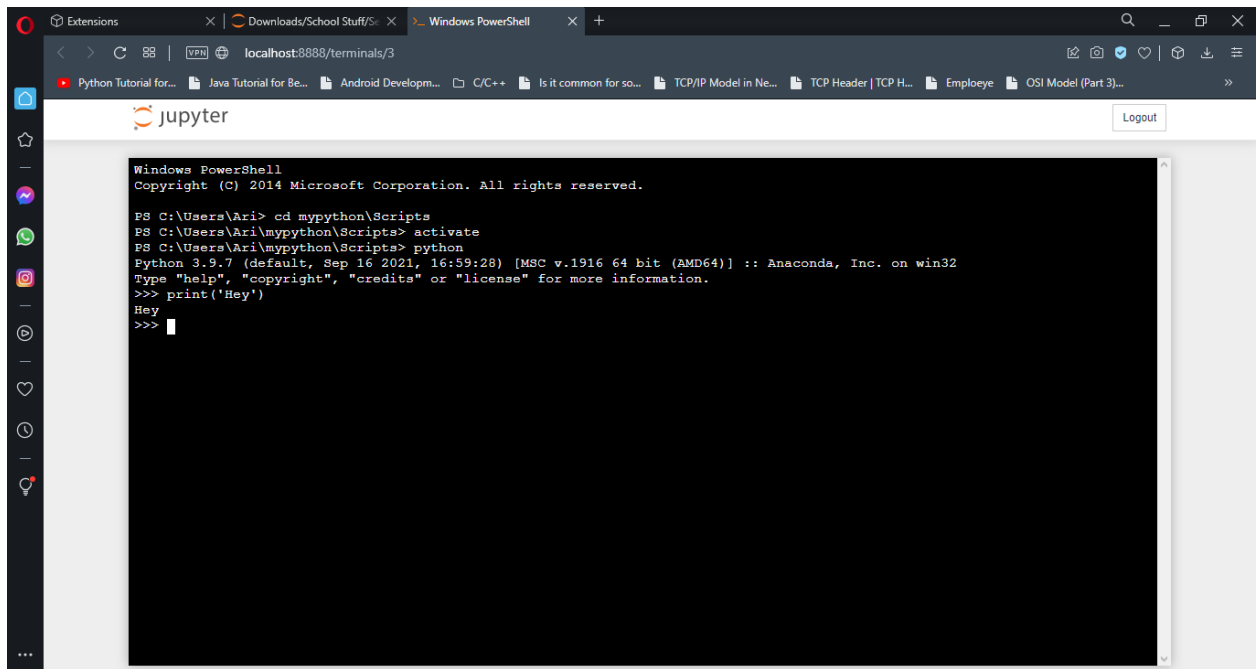
Pass a name to activate one of the following virtualenvs:
=====
ParthIII

C:\Users\Ari\Desktop\Py2>workon ParthIII
((ParthIII) ) C:\Users\Ari\Desktop\Py2>cd C:\Users\Ari\Desktop\Py2

((ParthIII) ) C:\Users\Ari\Desktop\Py2>python first.py
Merry Christmas
Enter number: 2
Merry Merry Christmas

((ParthIII) ) C:\Users\Ari\Desktop\Py2>
```

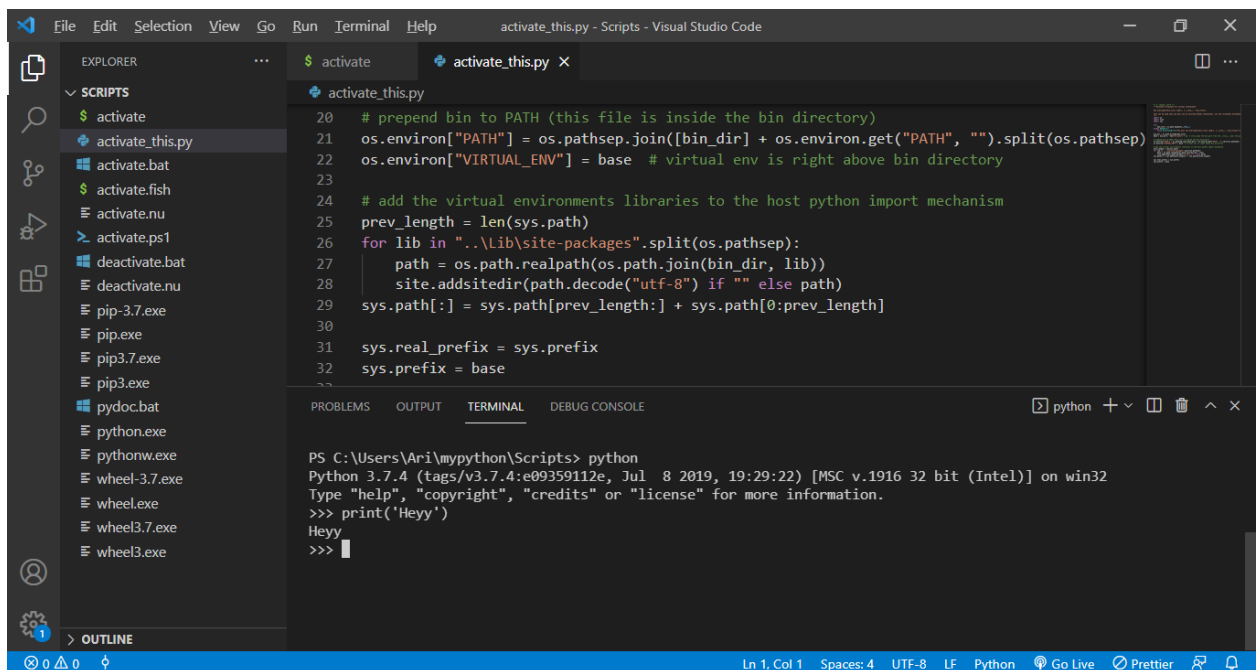
4. Create virtual environment in Ananconda, PyCharm IDE and VS Code IDE. (All three IDE have to be installed by each students)(Assign to students as Homework)



```

Windows PowerShell
Copyright (C) 2014 Microsoft Corporation. All rights reserved.

PS C:\Users\Ari> cd mypython\Scripts
PS C:\Users\Ari\mypython\Scripts> activate
PS C:\Users\Ari\mypython\Scripts> python
Python 3.9.7 (default, Sep 16 2021, 16:59:28) [MSC v.1916 64 bit (AMD64)] :: Anaconda, Inc. on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> print('Hey')
Hey
>>>
  
```



```

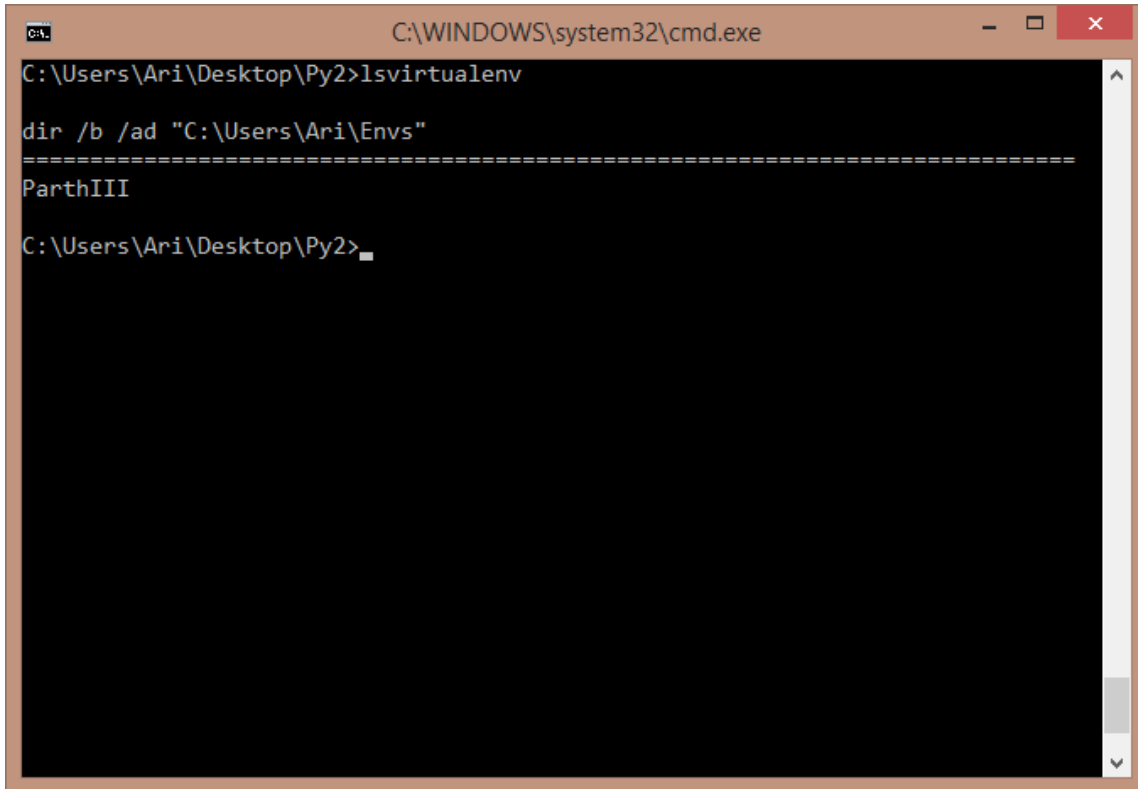
# prepend bin to PATH (this file is inside the bin directory)
os.environ["PATH"] = os.pathsep.join([bin_dir] + os.environ.get("PATH", "").split(os.pathsep))
os.environ["VIRTUAL_ENV"] = base # virtual env is right above bin directory

# add the virtual environments libraries to the host python import mechanism
prev_length = len(sys.path)
for lib in "..\Lib\site-packages".split(os.pathsep):
    path = os.path.realpath(os.path.join(bin_dir, lib))
    site.addsitedir(path.decode("utf-8") if "" else path)
sys.path[:] = sys.path[prev_length:] + sys.path[0:prev_length]

sys.real_prefix = sys.prefix
sys.prefix = base
  
```

```

PS C:\Users\Ari\mypython\Scripts> python
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul 8 2019, 19:29:22) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> print('Heyy')
Heyy
>>>
  
```


5. List all virtual environment

```
C:\WINDOWS\system32\cmd.exe
C:\Users\Ari\Desktop\Py2>lsvirtualenv
dir /b /ad "C:\Users\Ari\Envs"
=====
ParthIII
C:\Users\Ari\Desktop\Py2>
```

6. Switch between virtual environment using activate and deactivate option.

Demonstrated in Steps 2 & 3.