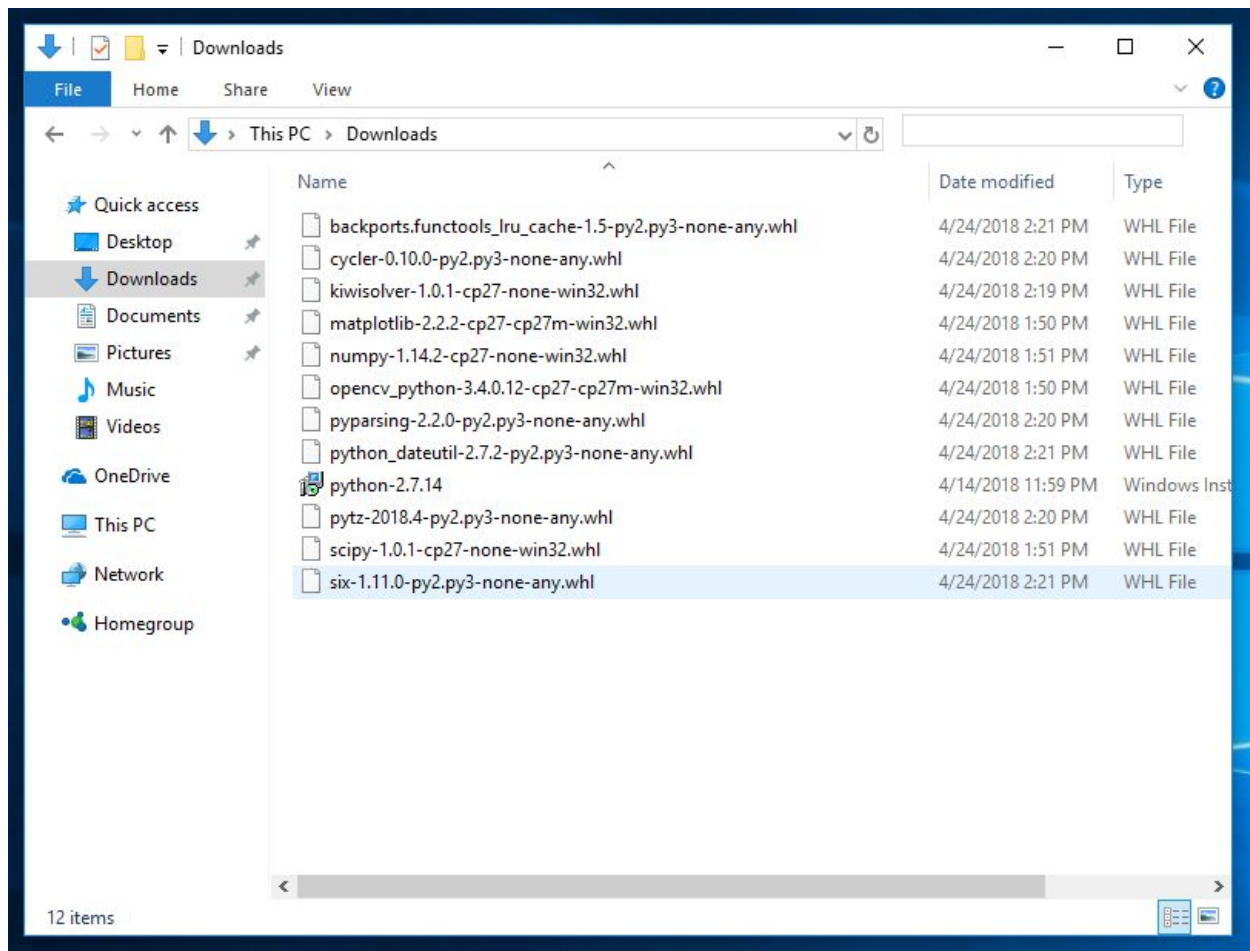


Installation guide for Python 2.7 OpenCV and Matplotlib

1. Required packages

- Python 2.7.14
- Python libraries from <http://pypi.org>
 - Numpy
 - Scipy
 - Kiwisolver
 - Pyparsing
 - Backports.functools
 - Six
 - Pytz
 - Cycler
 - Python_dateutil
 - Matplotlib
 - Opencv-python

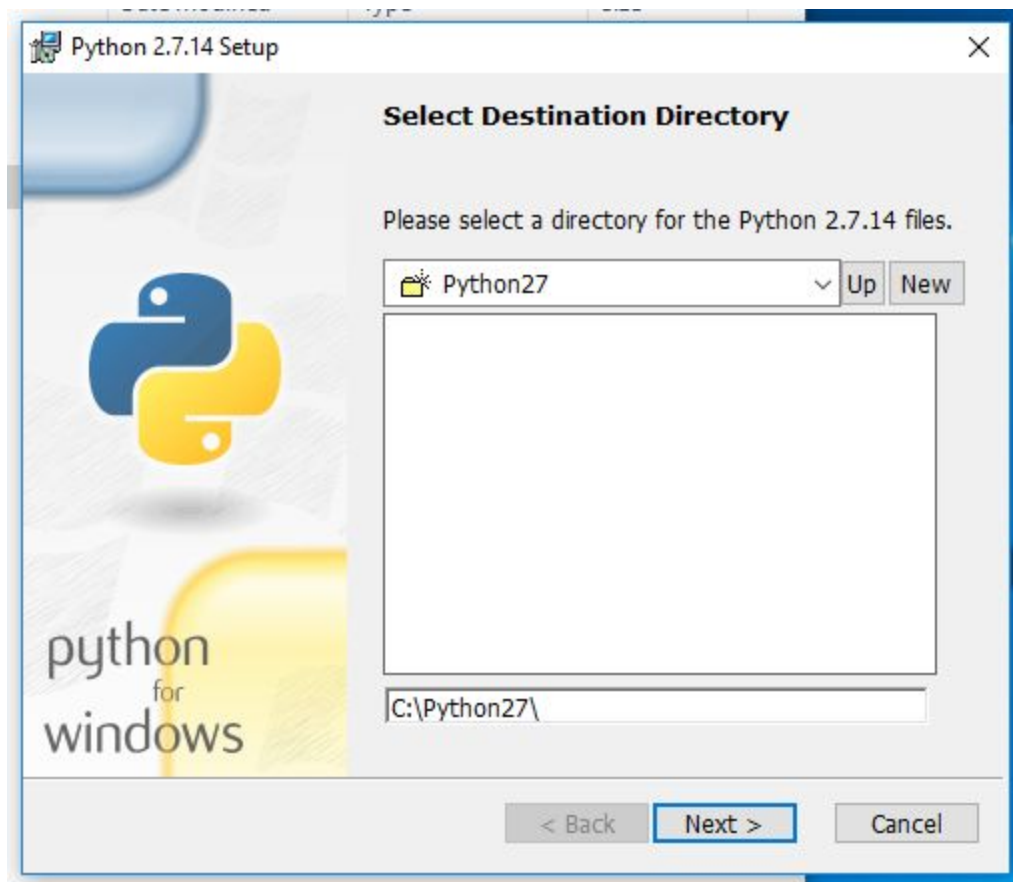


2. Python installation

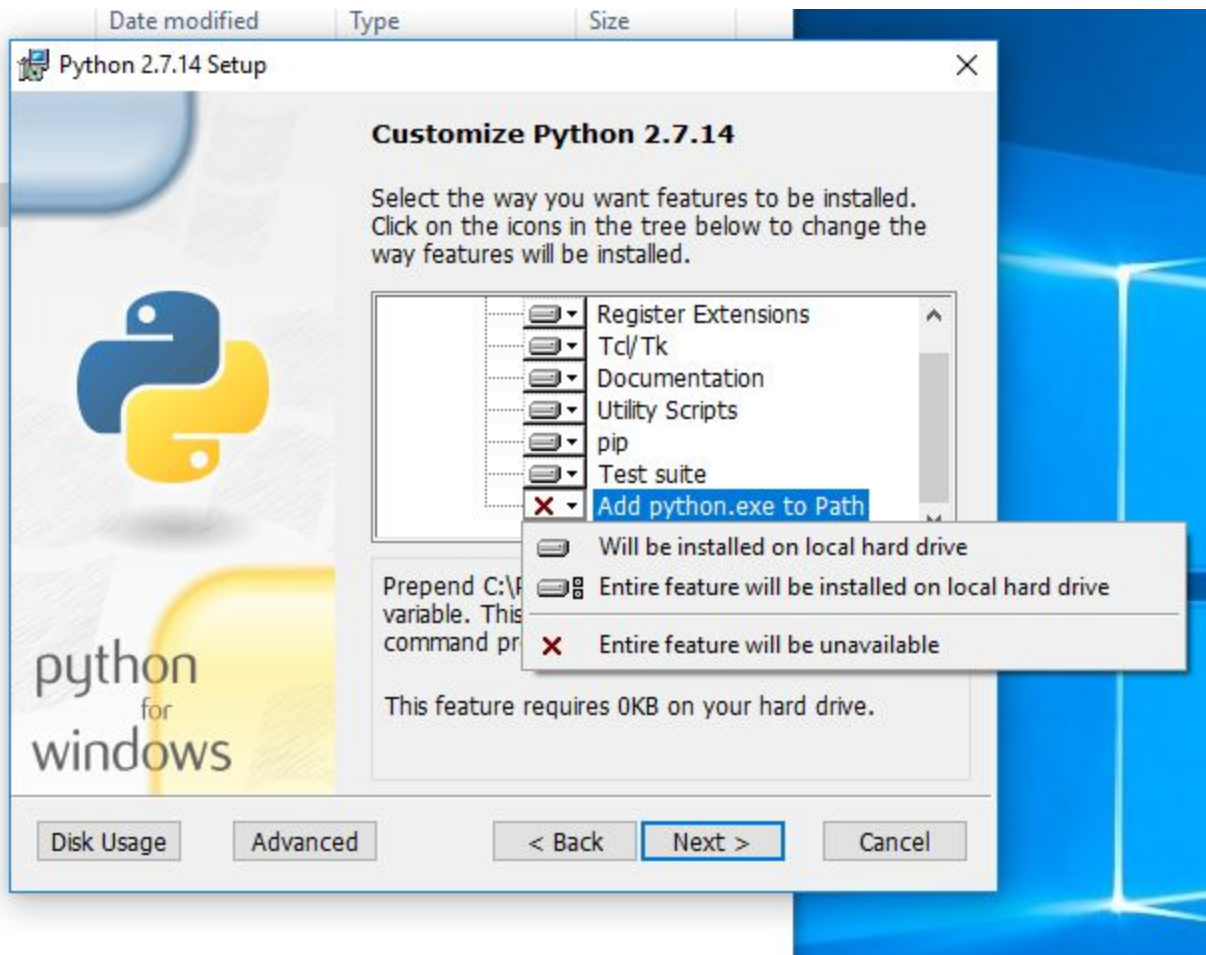
2.1 Select “Install for all users”.



2.2 Leave the default directory as “C:\Python27\”.



2.3 For “Add python.exe to Path”, choose “Entire feature will be installed on local hard drive”.

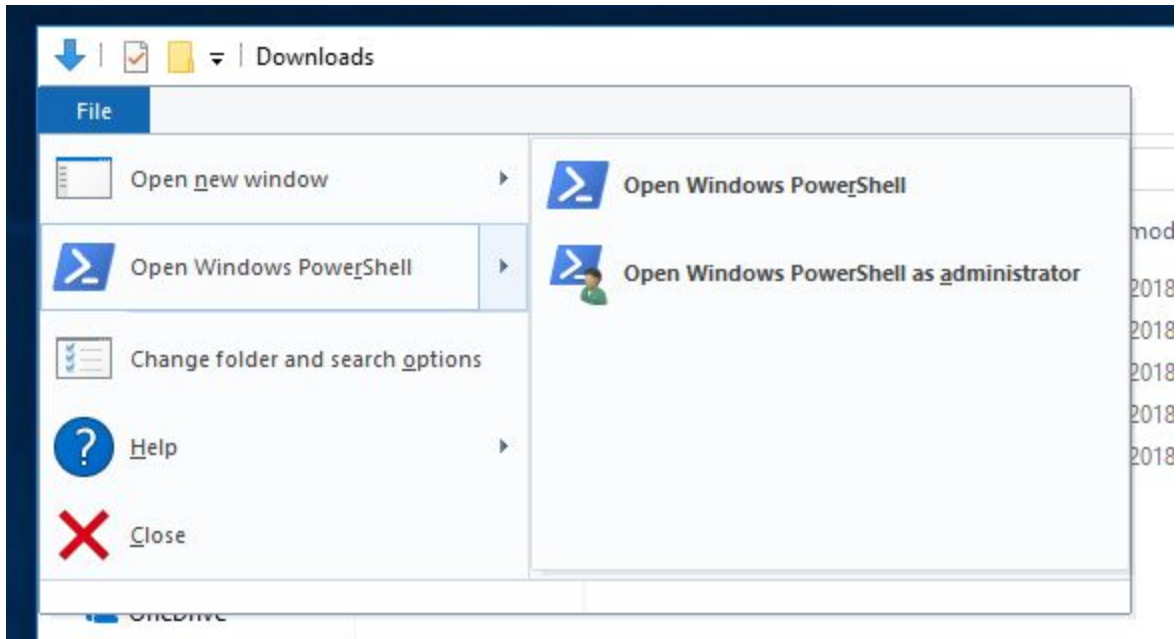


2.4 Finish Python installation.

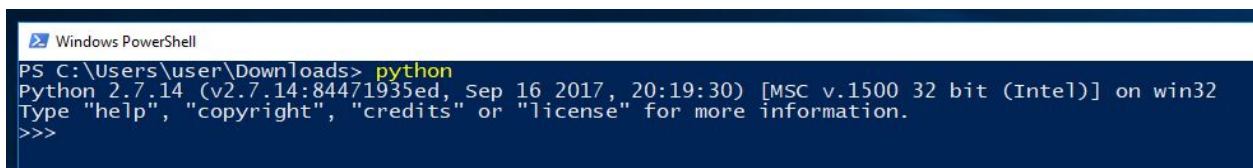
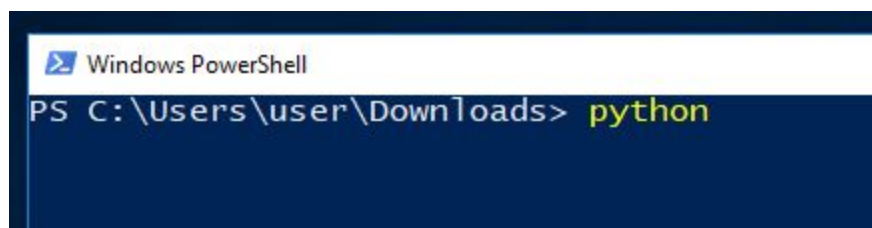


3. Confirm Python installation

3.1 Bring up PowerShell.

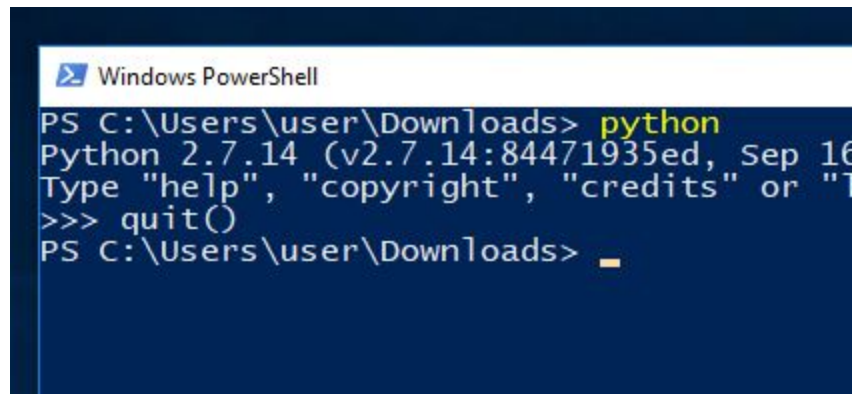


3.2 Type "python" and hit Enter.



Python was installed correctly.

3.3 Exit with ctrl-c or type "quit()" and hit Enter.



```
Windows PowerShell
PS C:\Users\user\Downloads> python
Python 2.7.14 (v2.7.14:84471935ed, Sep 16 2015)
Type "help", "copyright", "credits" or "quit()"
>>> quit()
PS C:\Users\user\Downloads> _
```

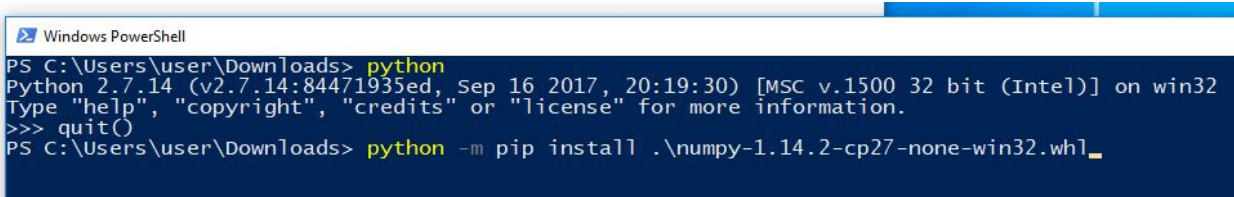

4. Python libraries installation

Order of installation

1. Numpy
2. Scipy
3. Kiwisolver
4. Pyparsing
5. Backports.functools
6. Six
7. Pytz
8. Cyclcr
9. Python_dateutil
10. Matplotlib
11. Opencv-python

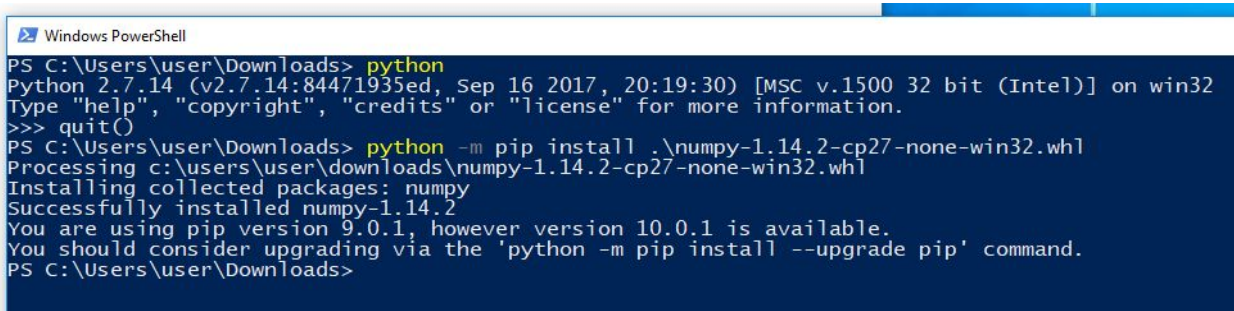
4.1 Bring up PowerShell, you should be in Downloads directory.

Type "python -m pip install <path-to-file>" to install a library



```
Windows PowerShell
PS C:\Users\user\Downloads> python
Python 2.7.14 (v2.7.14:84471935ed, Sep 16 2017, 20:19:30) [MSC v.1500 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> quit()
PS C:\Users\user\Downloads> python -m pip install .\numpy-1.14.2-cp27-none-win32.whl
```

numpy-1.14.2-cp27-none-win32.whl was inside Downloads directory.



```
Windows PowerShell
PS C:\Users\user\Downloads> python
Python 2.7.14 (v2.7.14:84471935ed, Sep 16 2017, 20:19:30) [MSC v.1500 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> quit()
PS C:\Users\user\Downloads> python -m pip install .\numpy-1.14.2-cp27-none-win32.whl
Processing c:\users\user\downloads\numpy-1.14.2-cp27-none-win32.whl
Installing collected packages: numpy
Successfully installed numpy-1.14.2
You are using pip version 9.0.1, however version 10.0.1 is available.
You should consider upgrading via the 'python -m pip install --upgrade pip' command.
PS C:\Users\user\Downloads>
```

Numpy was installed successfully.

4.2 Repeat step 4.1 for all libraries.

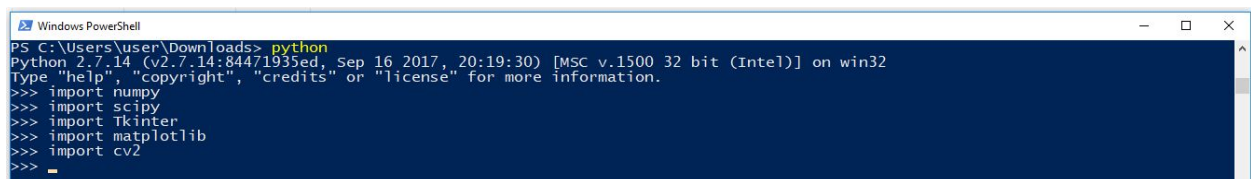
```
Windows PowerShell
PS C:\Users\User\Downloads> python -m pip install .\numpy-1.14.2-cp27-none-win32.whl
Processing c:\users\user\downloads\numpy-1.14.2-cp27-none-win32.whl
Installing collected packages: numpy
Successfully installed numpy-1.14.2
PS C:\Users\User\Downloads> python -m pip install .\scipy-1.0.1-cp27-none-win32.whl
Processing c:\users\user\downloads\scipy-1.0.1-cp27-none-win32.whl
Requirement already satisfied: numpy>=1.8.2 in c:\python27\lib\site-packages (from scipy==1.0.1)
Installing collected packages: scipy
Successfully installed scipy-1.0.1
PS C:\Users\User\Downloads> python -m pip install .\kiwisolver-1.0.1-cp27-none-win32.whl
Processing c:\users\user\downloads\kiwisolver-1.0.1-cp27-none-win32.whl
Requirement already satisfied: setuptools in c:\python27\lib\site-packages (from kiwisolver==1.0.1)
Installing collected packages: kiwisolver
Successfully installed kiwisolver-1.0.1
PS C:\Users\User\Downloads> python -m pip install
You must give at least one requirement to install (see "pip help install")
PS C:\Users\User\Downloads> python -m pip install .\pyparsing-2.2.0-py2.py3-none-any.whl
Processing c:\users\user\downloads\pyparsing-2.2.0-py2.py3-none-any.whl
Installing collected packages: pyparsing
Successfully installed pyparsing-2.2.0
PS C:\Users\User\Downloads> python -m pip install .\backports.functools_lru_cache-1.5-py2.py3-none-any.whl
Processing c:\users\user\downloads\backports.functools_lru_cache-1.5-py2.py3-none-any.whl
Installing collected packages: backports.functools_lru_cache
Successfully installed backports.functools_lru_cache-1.5
PS C:\Users\User\Downloads> python -m pip install .\six-1.11.0-py2.py3-none-any.whl
Processing c:\users\user\downloads\six-1.11.0-py2.py3-none-any.whl
Installing collected packages: six
Successfully installed six-1.11.0
PS C:\Users\User\Downloads> python -m pip install .\pytz-2018.4-py2.py3-none-any.whl
Processing c:\users\user\downloads\pytz-2018.4-py2.py3-none-any.whl
Installing collected packages: pytz
Successfully installed pytz-2018.4
PS C:\Users\User\Downloads> python -m pip install .\cycler-0.10.0-py2.py3-none-any.whl
Processing c:\users\user\downloads\cycler-0.10.0-py2.py3-none-any.whl
Requirement already satisfied: six in c:\python27\lib\site-packages (from cycler==0.10.0)
Installing collected packages: cycler
Successfully installed cycler-0.10.0
PS C:\Users\User\Downloads> python -m pip install .\python_dateutil-2.7.2-py2.py3-none-any.whl
Processing c:\users\user\downloads\python_dateutil-2.7.2-py2.py3-none-any.whl
Requirement already satisfied: six>=1.5 in c:\python27\lib\site-packages (from python-dateutil==2.7.2)
Installing collected packages: python-dateutil
Successfully installed python-dateutil-2.7.2
```

```
Windows PowerShell
PS C:\Users\User\Downloads> python -m pip install .\matplotlib-2.2.2-cp27-cp27m-win32.whl
Processing c:\users\user\downloads\matplotlib-2.2.2-cp27-cp27m-win32.whl
Requirement already satisfied: kiwisolver>=1.0.1 in c:\python27\lib\site-packages (from matplotlib==2.2.2)
Requirement already satisfied: numpy>=1.7.1 in c:\python27\lib\site-packages (from matplotlib==2.2.2)
Requirement already satisfied: pyparsing!=2.0.4,!=2.1.2,!=2.1.6,>=2.0.1 in c:\python27\lib\site-packages (from matplotlib==2.2.2)
Requirement already satisfied: backports.functools_lru_cache in c:\python27\lib\site-packages (from matplotlib==2.2.2)
Requirement already satisfied: six>=1.10 in c:\python27\lib\site-packages (from matplotlib==2.2.2)
Requirement already satisfied: pytz in c:\python27\lib\site-packages (from matplotlib==2.2.2)
Requirement already satisfied: cycler>=0.10 in c:\python27\lib\site-packages (from matplotlib==2.2.2)
Requirement already satisfied: python-dateutil>=2.1 in c:\python27\lib\site-packages (from matplotlib==2.2.2)
Requirement already satisfied: setuptools in c:\python27\lib\site-packages (from kiwisolver>=1.0.1->matplotlib==2.2.2)
Installing collected packages: matplotlib
Successfully installed matplotlib-2.2.2
PS C:\Users\User\Downloads> python -m pip install .\opencv_python-3.4.0.12-cp27-cp27m-win32.whl
Processing c:\users\user\downloads\opencv_python-3.4.0.12-cp27-cp27m-win32.whl
Requirement already satisfied: numpy>=1.11.1 in c:\python27\lib\site-packages (from opencv-python==3.4.0.12)
Installing collected packages: opencv-python
Successfully installed opencv-python-3.4.0.12
PS C:\Users\User\Downloads>
```

5. Confirm Python libraries installation

5.1 Bring up PowerShell and run Python then type the following commands

- import numpy
- import scipy
- import Tkinter
- import matplotlib
- import cv2

A screenshot of a Windows PowerShell window. The title bar reads "Windows PowerShell". The command prompt shows the user running 'python' in the directory 'C:\Users\user\Downloads'. The output indicates Python 2.7.14 is running on a 32-bit Intel machine. The user then enters a series of 'import' commands: 'import numpy', 'import scipy', 'import Tkinter', 'import matplotlib', and 'import cv2'. Each command is followed by a prompt '>>>' and the command is executed successfully without any error messages.

```
PS C:\Users\user\Downloads> python
Python 2.7.14 (v2.7.14:84471935ed, Sep 16 2017, 20:19:30) [MSC v.1500 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> import numpy
>>> import scipy
>>> import Tkinter
>>> import matplotlib
>>> import cv2
>>>
```

All libraries were installed successfully