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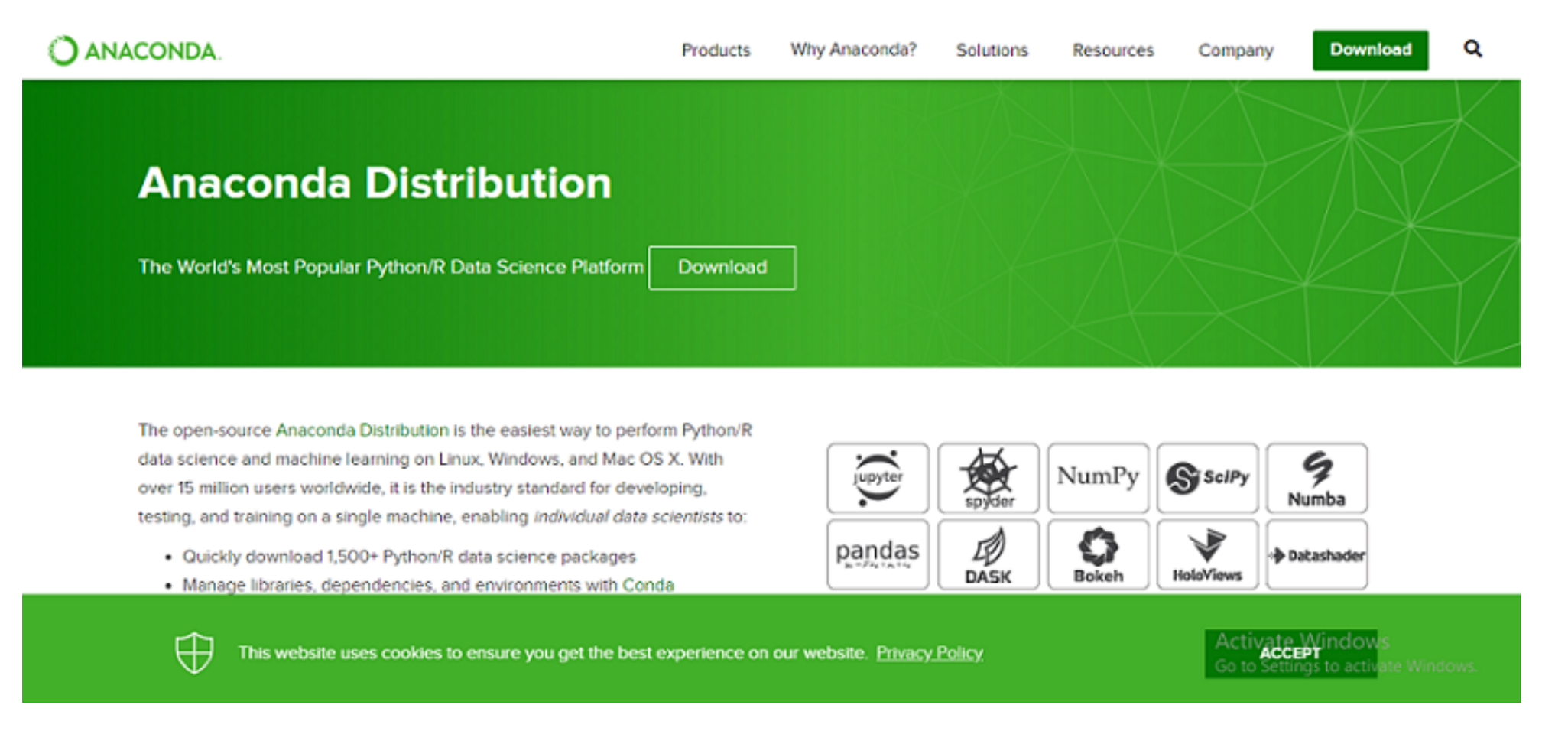
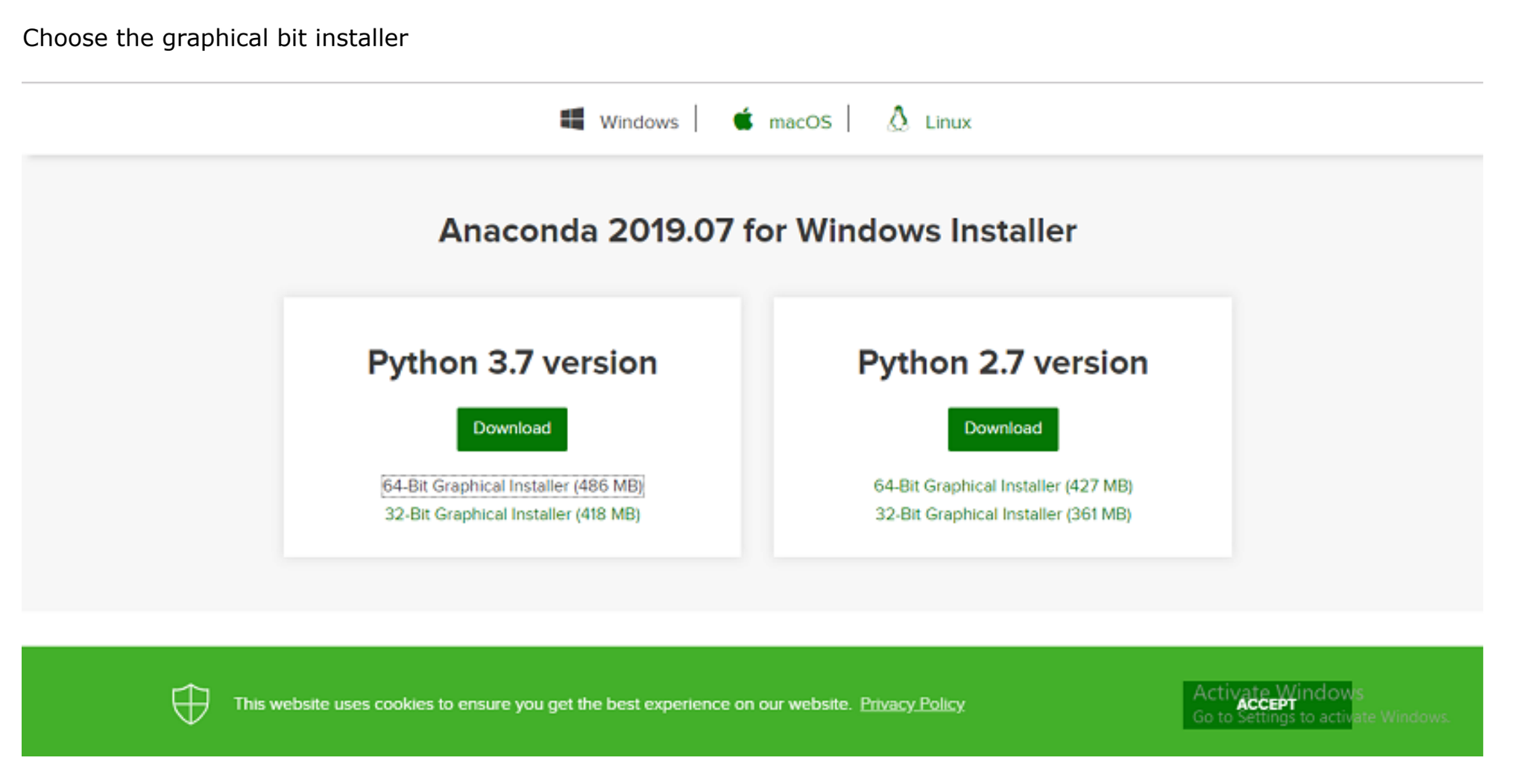
Installation of the OpenCV

Install OpenCV using Anaconda

The first step is to download the latest Anaconda graphic installer for Windows from it official site. Choose your bit graphical installer. You are suggested to install 3.7 working with Python 3.

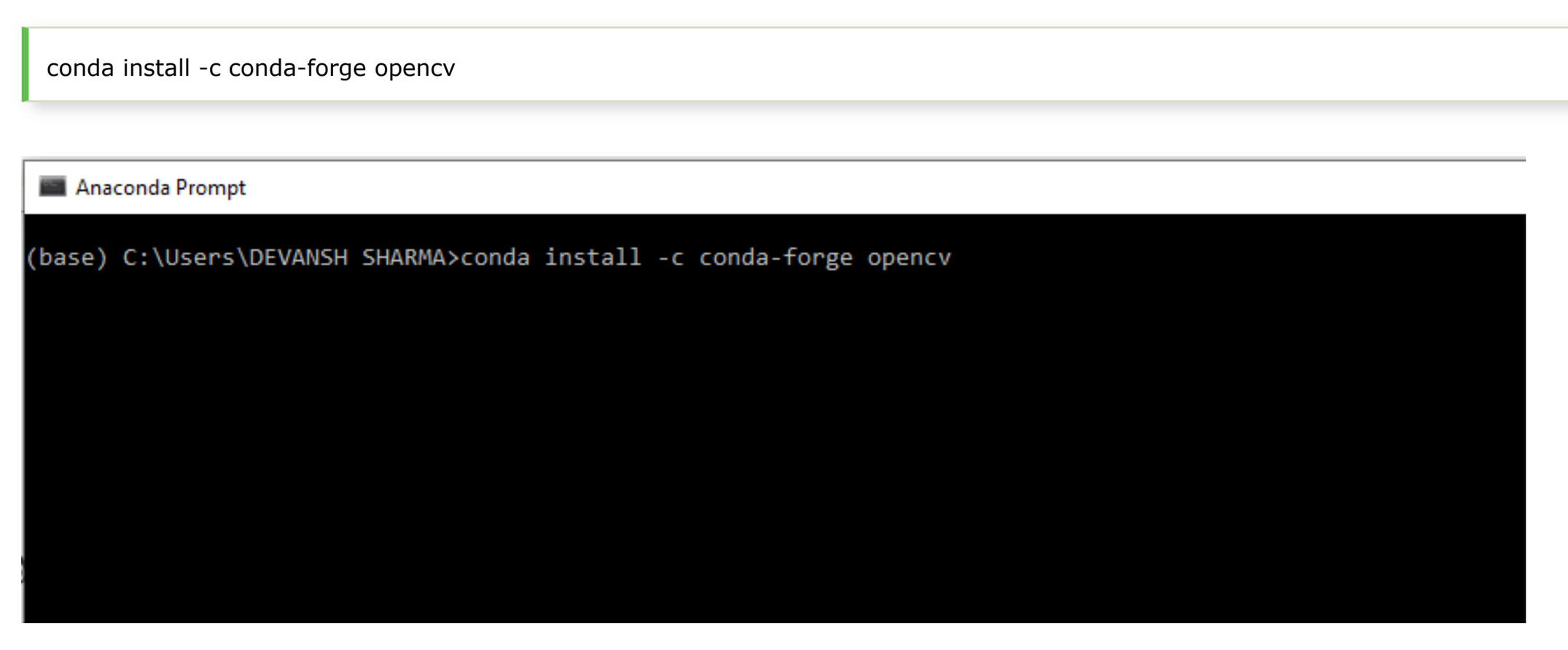


Choose the graphical bit installer



After installing it, open the Anaconda prompt and type the following command.

```
conda install -c conda-forge opencv
```



Press the Enter button and it will download all the related OpenCV configuration.

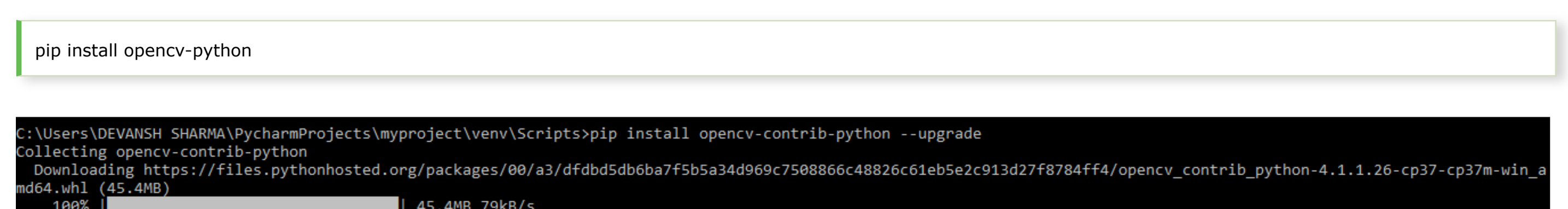
Install OpenCV in the Windows via pip

OpenCV is a Python library so it is necessary to install Python in the system and install OpenCV using pip command:

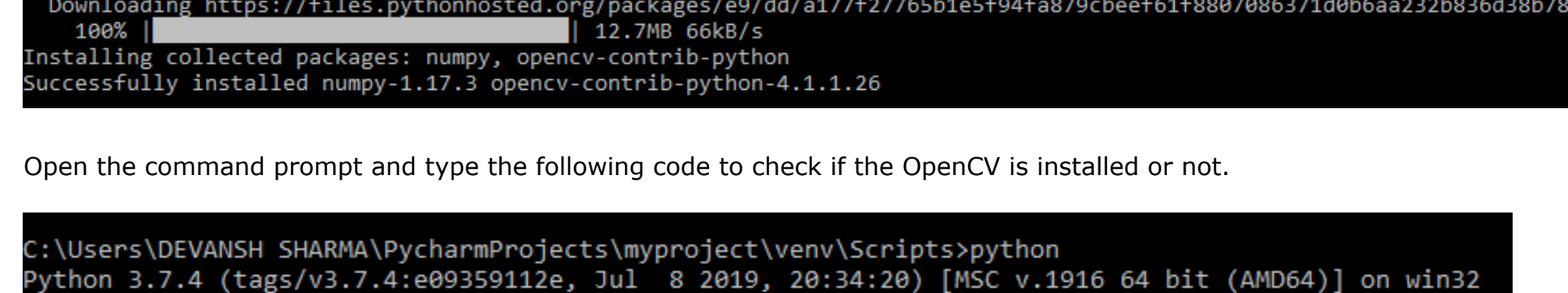
```
pip install opencv-contrib-python --upgrade
```

We can install it without extra modules by the following command:

```
pip install opencv-python
```



Open the command prompt and type the following code to check if the OpenCV is installed or not.



Installation OpenCV in MacOS

In this section, we will learn about the installation of OpenCV on macOS using the Homebrew. The advantage of using the Homebrew is that it simplifies the installation process. It requires a few commands to install. The installation steps are the following:

Step-1: Install the Xcode command line Tools

To install the Xcode type the following command in terminal.

```
sudo xcode-select --install
```

To verify that it installed successfully, type the following command.

```
sudo xcode-select -p
```

If it shows **/Application/Xcode.app/Content/Developer** then we can proceed further.

Step-2: Install Homebrew

To install Homebrew, type the following command in terminal.

```
ruby -e "$(curl -fsSL https://raw.github.com/Homebrew/homebrew/go/install)"
```

A shell script **.bashrc** is located in your home directory that Bash runs whenever it is started interactively. We can locate the home directory using the following command.

```
echo $HOME
```

It should display output like

```
/Users/MATHEW
```

Step-3: Install Python 3

To start with OpenCV, it is necessary to install Python. To install Python 3 using Homebrew, type the following command:

```
brew install python3
```

To check the python version by running the following command:

```
python3 --version
```

It will display the version of downloaded Python.

Step - 4 Install OpenCV

To install the OpenCV3 type the following command:

```
brew install opencv3 -with-contrib -with-python3
```

Setup a Python 3 Virtual Environment

The virtualenv and virtualenvwrapper packages provide the facility to set the virtual environments. It is important to set the virtual environment to work with multiple projects without introducing conflict in their dependencies.

To install **virtualenv** and **virtualenvwrapper** we use pip (Python Package Manager):

```
pip3 install virtualenv and virtualenv virtualenvwrapper
```

We also need to update **~/.bashrc**:

```
#virtualenv/VirtualenvWrapper
VIRTUALENVWRAPPER_PYTHON ='/user/local/bin/python3'
Source/user/local/bin/virtualenvwrapper.sh
export WORKON_HOME = $HOME/.virtualenvs
```

Now we can create a Python 3 virtual environment:

```
mkvirtualenv cv3 -p python3
```

We can access the OpenCV by using the following command.

```
workon cv3
```

The above command activates the OpenCV in the system.

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