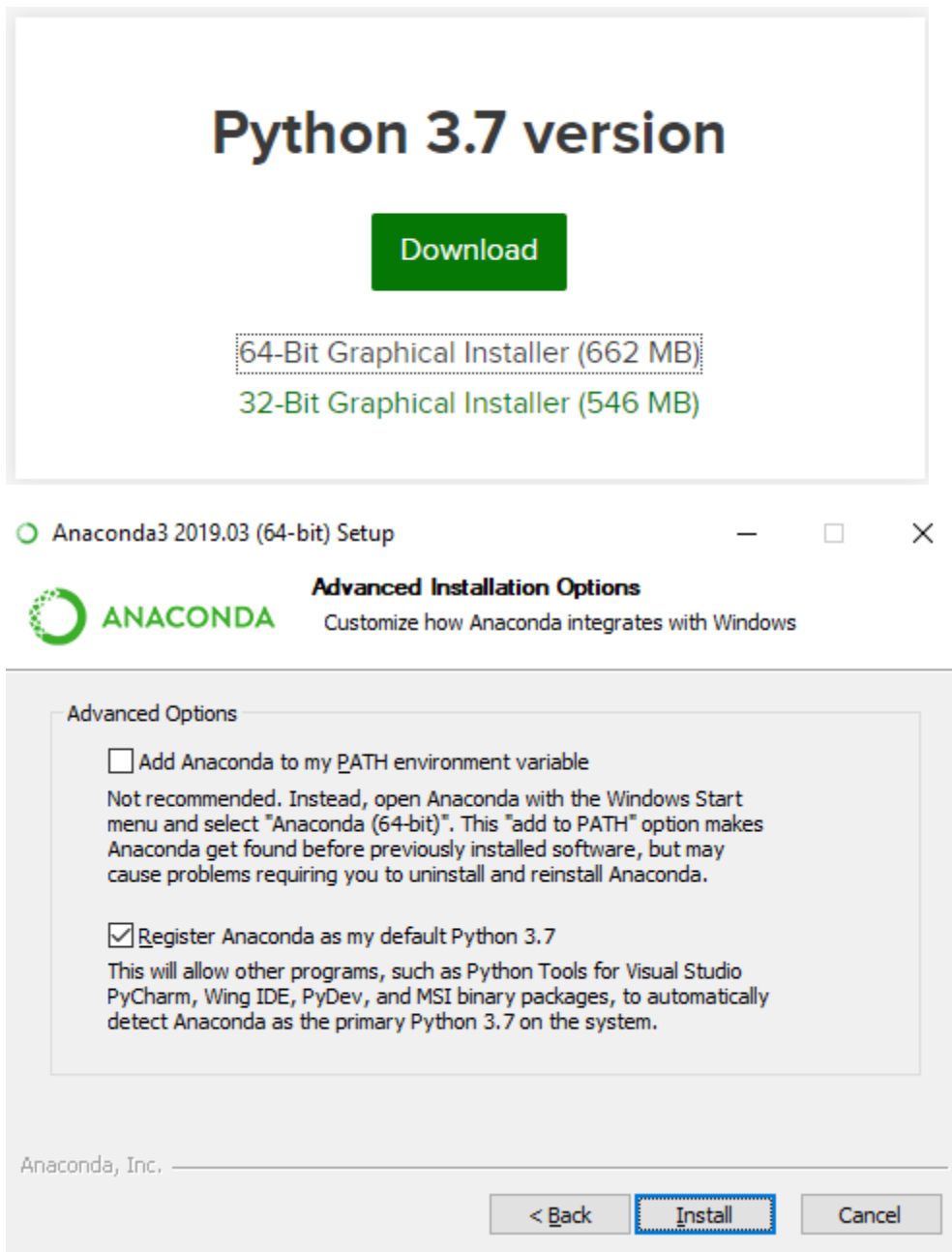


## Install Anaconda development IDE:

<https://www.anaconda.com/distribution/#download-section>



The screenshot shows the Anaconda3 2019.03 (64-bit) Setup window. At the top, it displays "Python 3.7 version" and a green "Download" button. Below the button, two options are listed: "64-Bit Graphical Installer (662 MB)" and "32-Bit Graphical Installer (546 MB)". The window title bar reads "Anaconda3 2019.03 (64-bit) Setup". The main content area is titled "Advanced Installation Options" and includes the Anaconda logo and the text "Customize how Anaconda integrates with Windows". Under the "Advanced Options" section, there are two checkboxes: "Add Anaconda to my PATH environment variable" (unchecked) and "Register Anaconda as my default Python 3.7" (checked). The "Add to PATH" option has a warning: "Not recommended. Instead, open Anaconda with the Windows Start menu and select 'Anaconda (64-bit)'. This 'add to PATH' option makes Anaconda get found before previously installed software, but may cause problems requiring you to uninstall and reinstall Anaconda." The "Register as default" option has a description: "This will allow other programs, such as Python Tools for Visual Studio, PyCharm, Wing IDE, PyDev, and MSI binary packages, to automatically detect Anaconda as the primary Python 3.7 on the system." At the bottom, the text "Anaconda, Inc." is visible on the left, and three buttons are on the right: "< Back", "Install", and "Cancel".

Python 3.7 version

Download

64-Bit Graphical Installer (662 MB)

32-Bit Graphical Installer (546 MB)

Anaconda3 2019.03 (64-bit) Setup

**ANACONDA** Advanced Installation Options  
Customize how Anaconda integrates with Windows

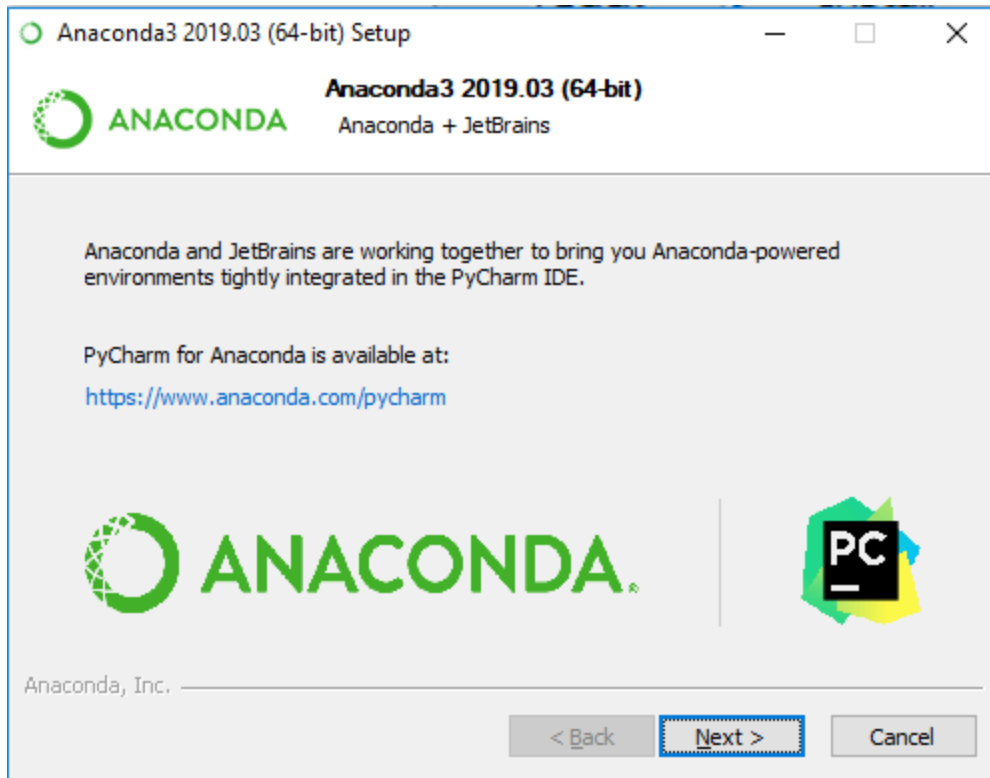
Advanced Options

Add Anaconda to my PATH environment variable  
Not recommended. Instead, open Anaconda with the Windows Start menu and select "Anaconda (64-bit)". This "add to PATH" option makes Anaconda get found before previously installed software, but may cause problems requiring you to uninstall and reinstall Anaconda.

Register Anaconda as my default Python 3.7  
This will allow other programs, such as Python Tools for Visual Studio, PyCharm, Wing IDE, PyDev, and MSI binary packages, to automatically detect Anaconda as the primary Python 3.7 on the system.

Anaconda, Inc.

< Back Install Cancel

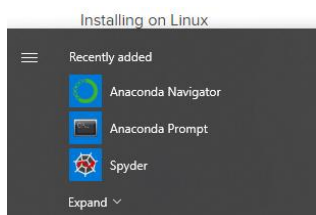


Optional whether you want to install PyCharm, not required. Click Next if you don't.

More information can be found here: <https://docs.anaconda.com/anaconda/install/windows/>

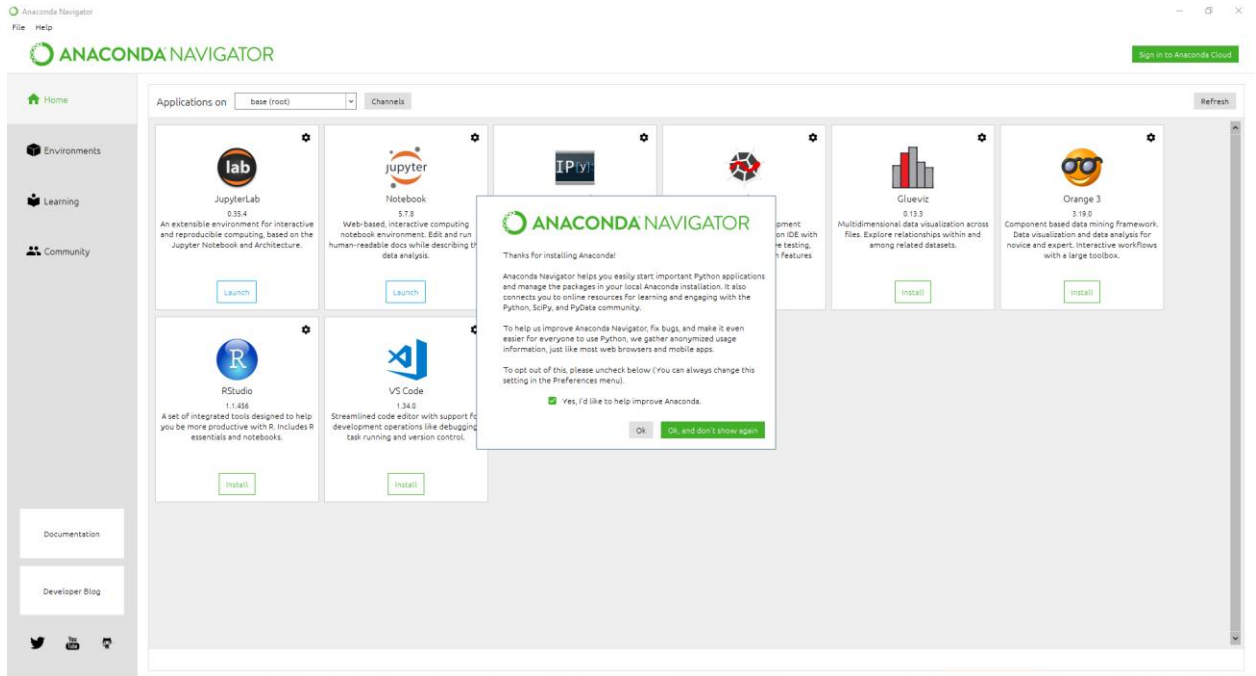
### Verification of installation:

Click Start - then from the shortcuts, select Anaconda Navigator. If it opens, you have successfully installed Anaconda.

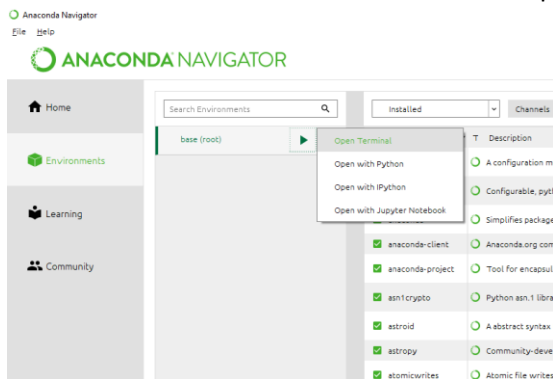


### Using Anaconda:

1. Click "Anaconda Navigator"



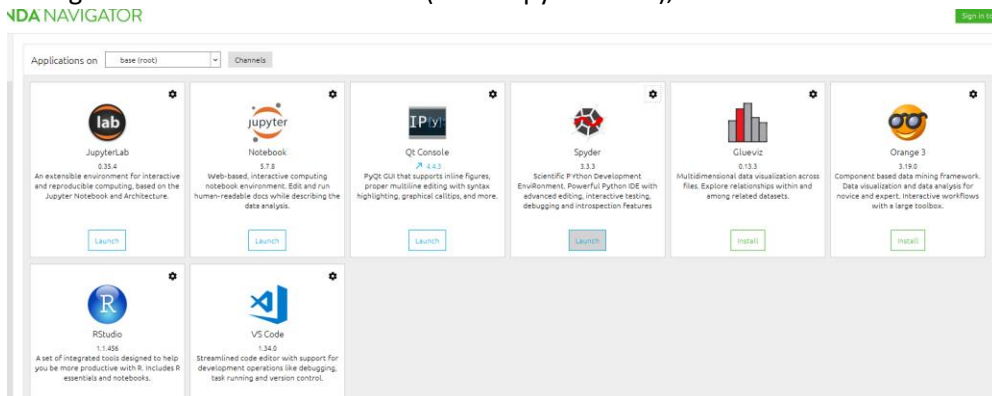
- Go to Environments from left side and click “play” button then select “Open Terminal”



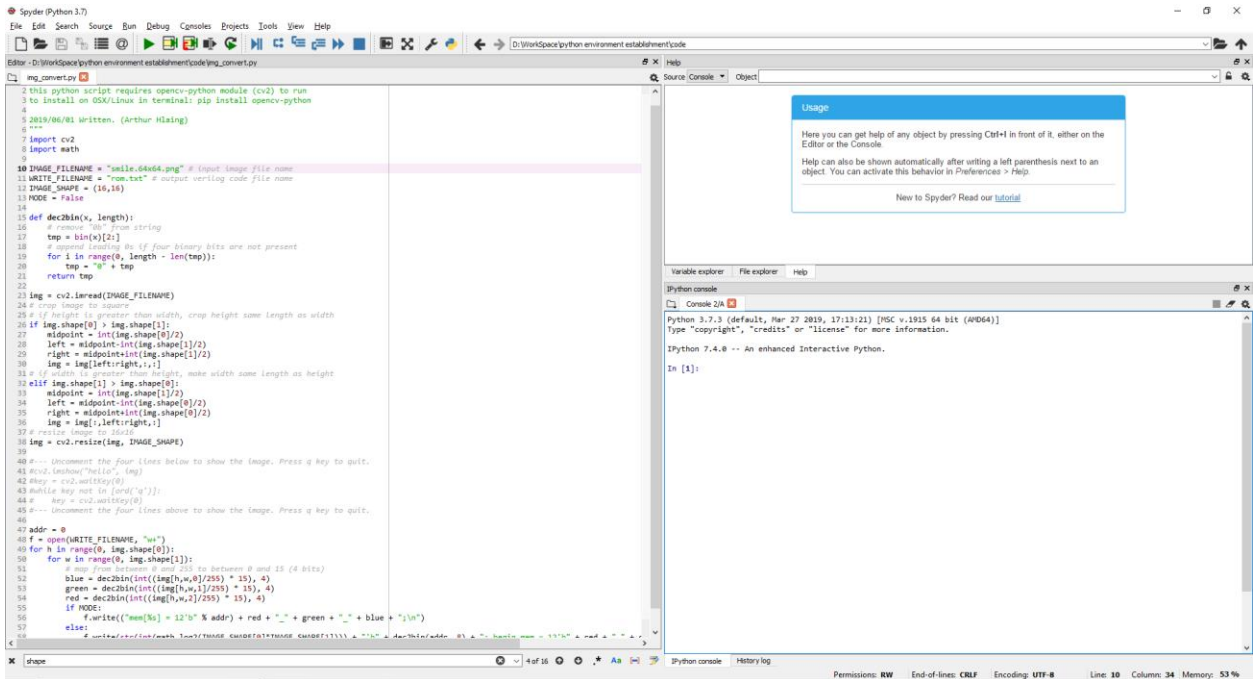
- In terminal window, type: pip install opencv-python

```
(base) C:\Users\Jason>pip install opencv-python
Collecting opencv-python
  Downloading https://files.pythonhosted.org/packages/a3/50/04d0669afe884f137c2f490642756e8c4a658254300a9ef253d1e643085/opencv_python-4.1.0.25-cp37m-wl1_amd64.whl (37.3MB)
100% |#####| 37.4MB 450KB/s
Requirement already satisfied: numpy>=1.14.5 in d:\applications\anaconda3\lib\site-packages (from opencv-python) (1.16.2)
Installing collected packages: opencv-python
Successfully installed opencv-python-4.1.0.25
```

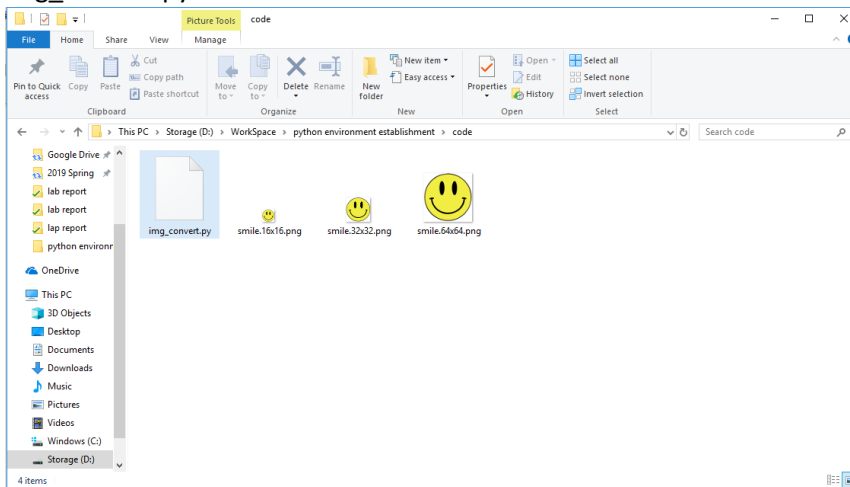
- Now go to Home and select an IDE (I used spyder 3.3.3), click lunch



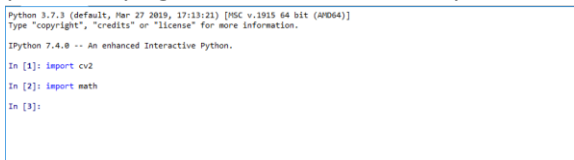
- In your IDE window, open `img_convert.py` you downloaded from class website and it should look like this.



- In order to get `rom.txt` file, you should put your images in the same folder where you save `img_convert.py`.



- Then in your IDE window, change the value of variable `"IMAGE_FILENAME"` (line 10) to the `img` you are trying to convert. And also in your console (right lower coner), import required library.



- Now click "run" button and you will get your `rom.txt` at the folder where you save your files.

```
2 this python script requires opencv-python module (cv2) to run
3 to install on OSX/Linux in terminal: pip install opencv-python
4
5 2019/06/01 Written. (Arthur Hlaing)
6 """
7 import cv2
8 import math
9
10 IMAGE_FILENAME = "smile.64x64.png" # input image file name
11 WRITE_FILENAME = "rom.txt" # output verilog code file name
12 IMAGE_SHAPE = (16,16)
13 MODE = False
14
15 def dec2bin(x, length):
16     # remove "0b" from string
```

Your console should show this:

```
Python 3.7.3 (default, Mar 27 2019, 17:13:21) [MSC v.1915 64 bit (AMD64)]
Type "copyright", "credits" or "license()" for more information.

IPython 7.4.0 -- An enhanced Interactive Python.

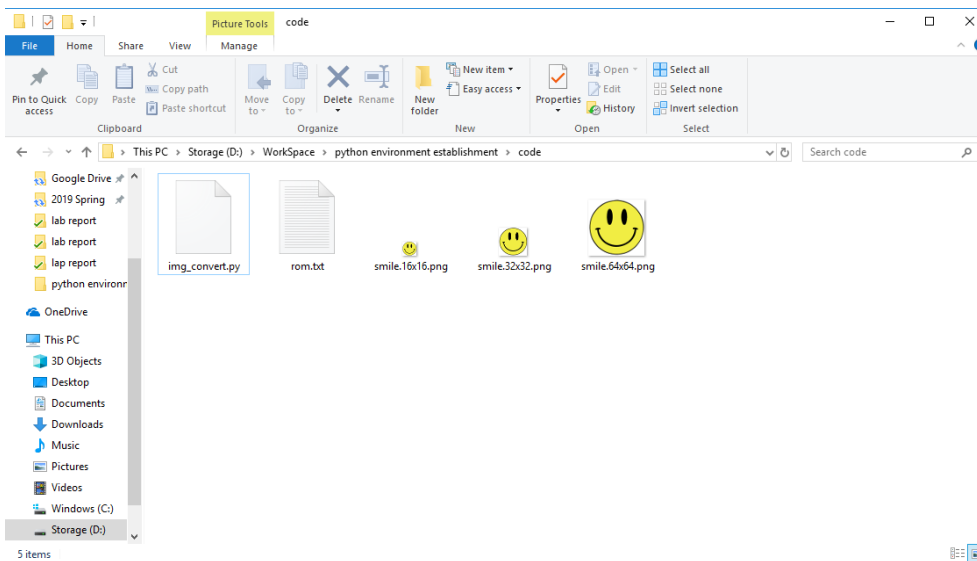
In [1]: import cv2

In [2]: import math

In [3]: runfile('D:/Workspace/python environment establishment/code/img_convert.py', wdir='D:/Workspace/python environment
establishment/code')

In [4]:
```

Your folder should have this:



**Disclaimer:**

This instruction is not official Anaconda document.

For using img\_convert.py, please read the instruction posted on class website.