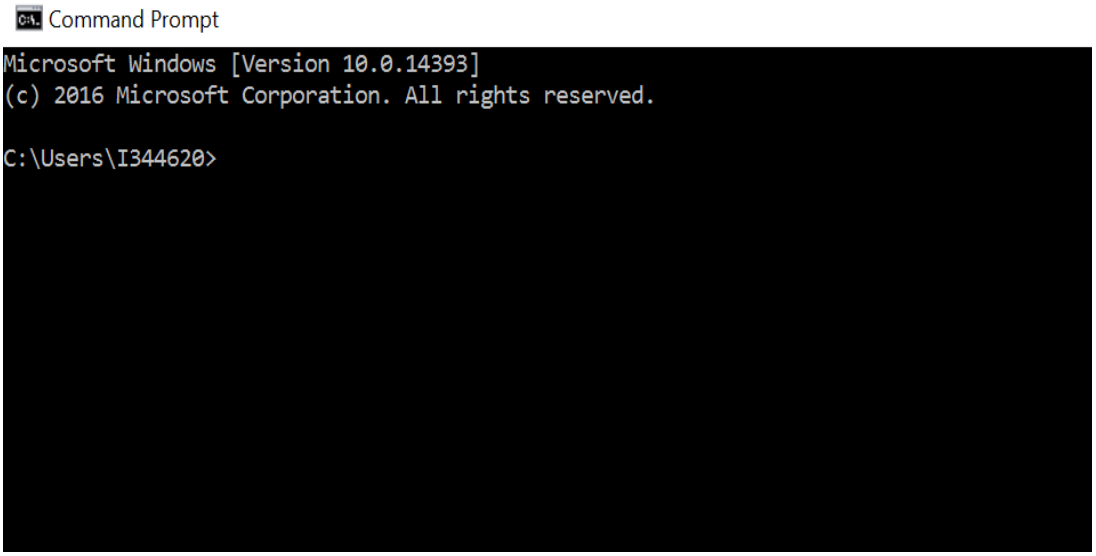
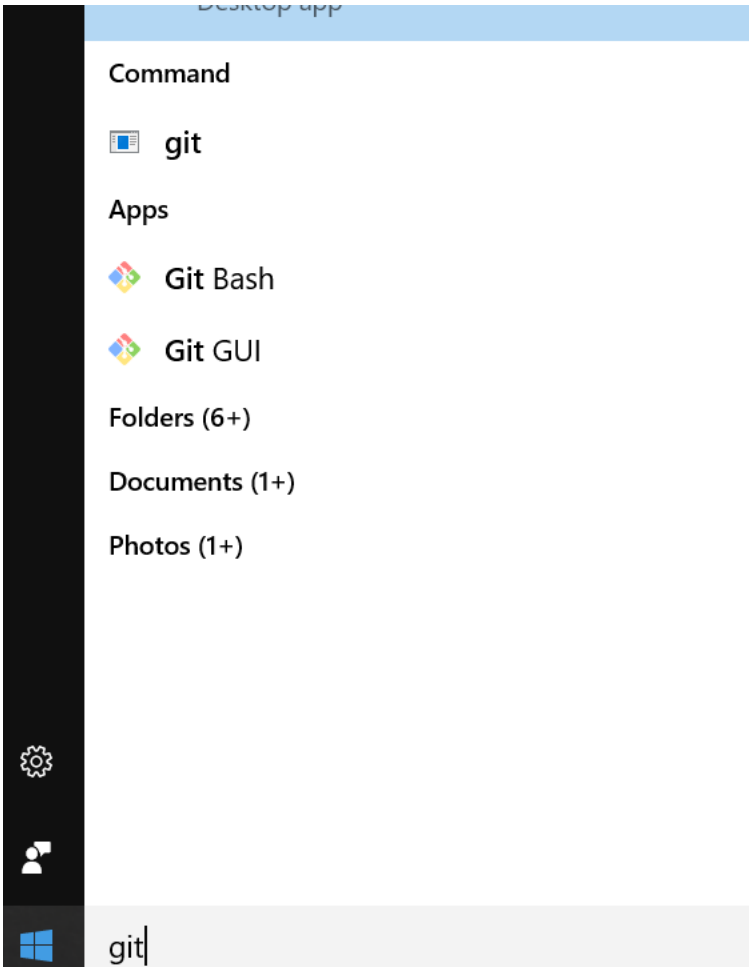
# Steps to perform Image classification using Deep learning

1. Open command prompt from the windows startup menu




2. Hope everyone has installed git software. Kindly check whether git is installed in your machine by typing “git” in the startup menu.




3. If step 2 is good, then move on to Step 4. Else please check with your trainer regarding git software installation document.

4. For Deep learning, we use Tensorflow. Please clone the Tensorflow models and algorithms to your machine using the below command

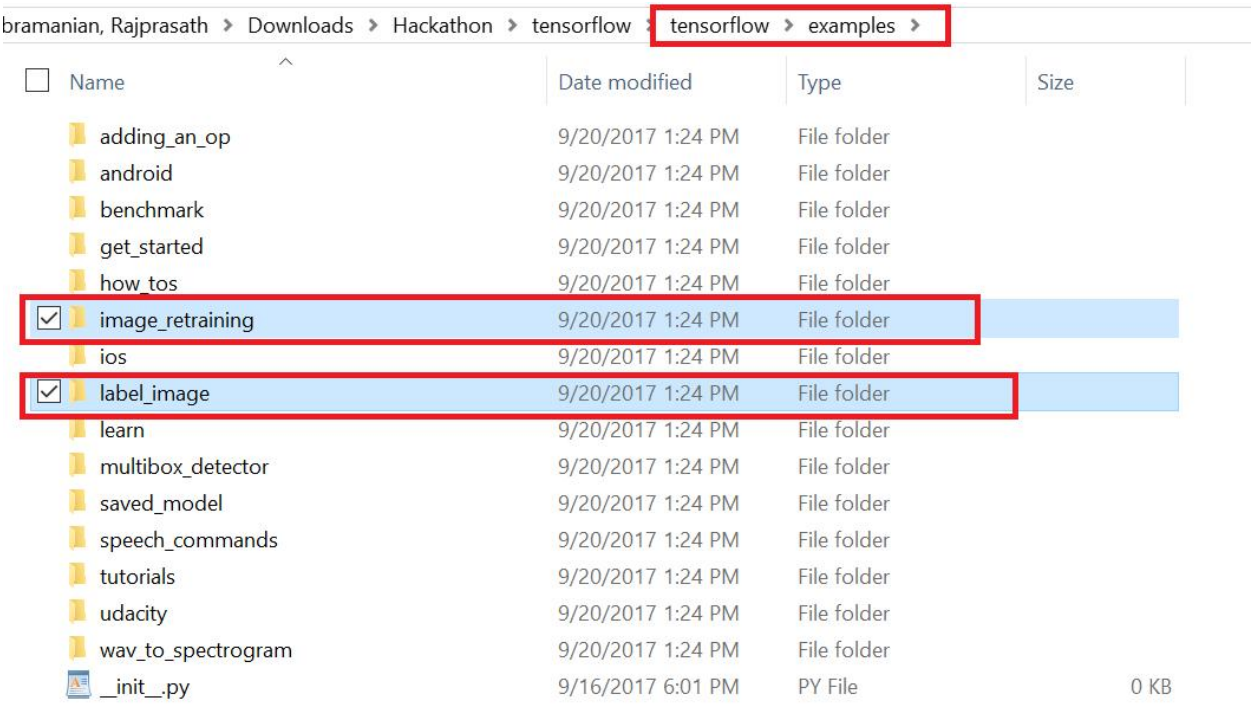
   **git clone** https://github.com/tensorflow/tensorflow

   This command will get executed for 2-5 minutes to get the Tensorflow models and examples cloned on your machine

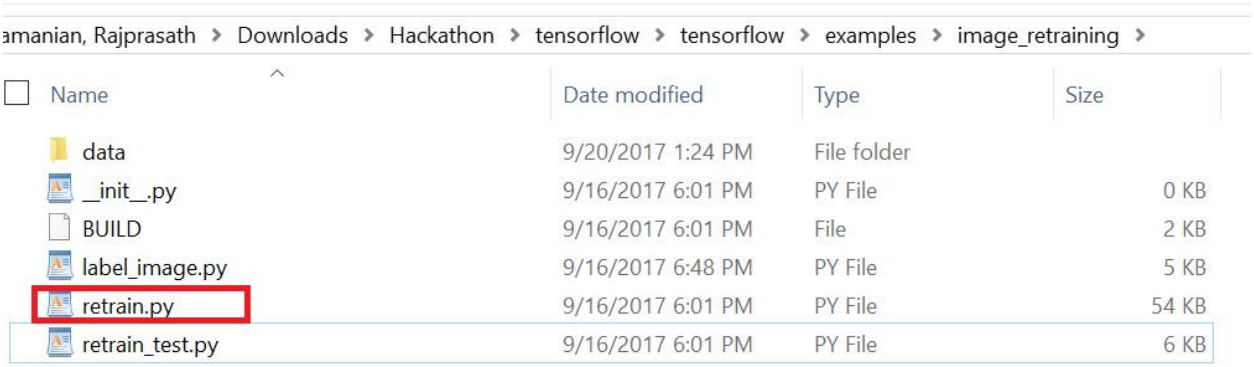
5. Please navigate to the sub folder "**example**" present inside the cloned Tensorflow folder

   **C:\Users\I344620\Downloads\Hackathon\tensorflow\tensorflow\examples**

(You need to replace the above file structure to the folder where you have installed the tensorflow)



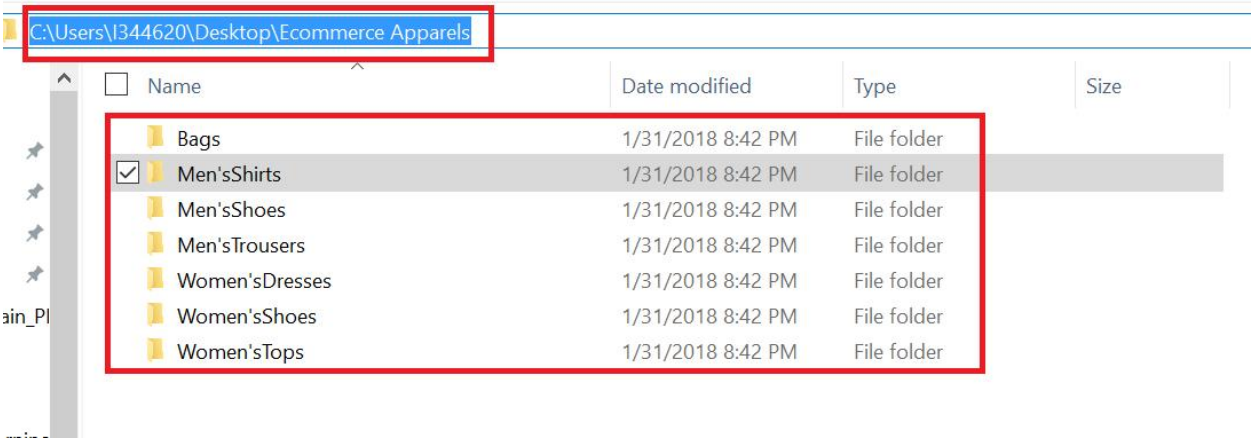

6. You can see there are two folders named “image_retraining” and “label_image”. Please open “image_retraining” folder and check whether retrain.py file is present or not




7.Download the below zip file and unzip the folders in your desktop

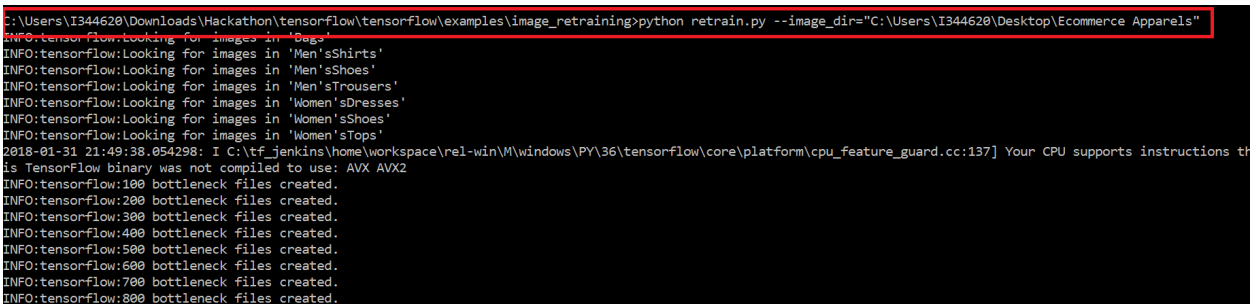
Ecommerce Apparels.zip

7. After you unzip it, your folder structure should be looking like this




8. In command prompt . navigate to the image_retraining folder and run the below script. This step is the model training. Your trainer will explain what this step actually does behind

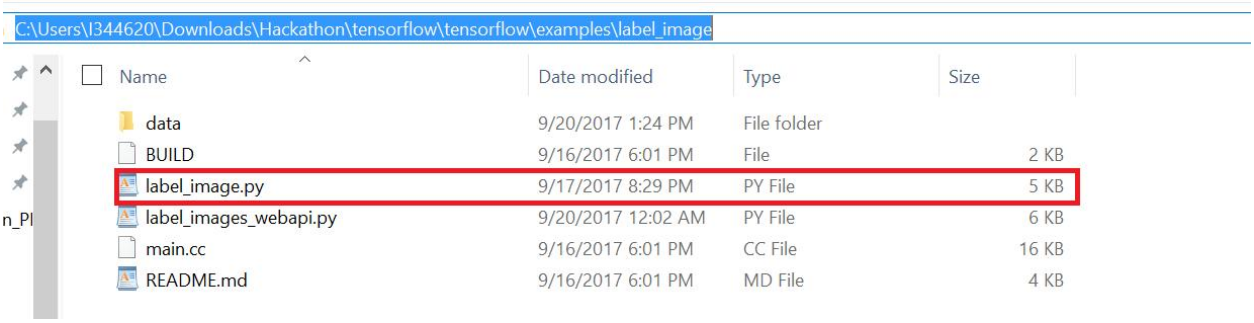
**python retrain.py --image_dir="C:\Users\I344620\Desktop\Ecommerce Apparels"**




**It may run for 10-15 minutes.** Please let your instructor know of any issues if you stuck up somewhere.

9.Once the above step is completed successfully, please navigate to the **label_image** folder present inside **tensorflow\examples** directory

**C:\Users\I344620\Downloads\Hackathon\tensorflow\tensorflow\examples\label_image**




10.Run the **label_image.py** file. You have to provide one image as an argument. This is basically an inference step. You can download an image online and give it as an input. Image that you are downloading online should be belonging to any of the 7 labels( **Men shoes,Women Shoes,Women dress,Bags,Men Shirts,Men Ttousers or Women tops**)

**python label_image.py --graph=/tmp/output_graph.pb --labels=/tmp/output_labels.txt --output_layer=final_result --image="C:\\Users\\I344620\\Desktop\\Men Shoes.jpg"**

Kindly check whether you are getting the below output

```
C:\Users\I344620\Downloads\Hackathon\tensorflow\tensorflow\examples\label_image>python label_image.py --graph=/tmp/output_graph.pb --labels=/tmp/output_labels.txt --output_
layer=final_result --image="C:\\Users\\I344620\\Desktop\\Men Shoes.jpg"
2018-01-31 21:55:03.682478: I C:\tf_jenkins\home\workspace\rel-win\M\windows\PY\36\tensorflow\core\platform\cpu_feature_guard.cc:137] Your CPU supports instructions that th
is TensorFlow binary was not compiled to use: AVX AVX2
2018-01-31 21:55:04.872541: W C:\tf_jenkins\home\workspace\rel-win\M\windows\PY\36\tensorflow\core\framework\op_def_util.cc:334] Op BatchNormWithGlobalNormalization is depr
ecated. It will cease to work in GraphDef version 9. Use tf.nn.batch_normalization().
[2 5 4 0 1]
['bags', 'men sshirts', 'men sshoes', 'men strousers', 'women sdresses', 'women sshoes', 'women stops']
men sshoes 0.859785
women sshoes 0.139055
women sdresses 0.000331822
bags 0.000266627
men sshirts 0.000226414
```

You have created your deep learning image classification model using Tensorflow successfully!!!