I did initially try to solve the problem without employing any use of pretrained models at first. However, I found that the testing accuracy sometimes is no better than random choice, around 10% accuracy.

After that, I have employed the pretrained model VGG-19 and then fine tune it to fit to my own classification problem as the goal was to classify the 10 classes given in the training dataset. So I have to build my own dense layer so that there are 10 neurons at the final SoftMax layer.

I understand that there are a lot of Improvements that can made, such as finding the perfect model for this problem. However, I was running low on time and I know that there are better pretrained models out there compared to VGG-19 for the classification problem.