CS5542 Big Data Analytics and App
LAB ASSIGNMENT #10

1.TensorFlow Programming:
Write a TensorFlow program for the following Task.
brief description about the dataset: I perform this application with my own dataset contains the fruit images(orange and grape) and the result shows below.
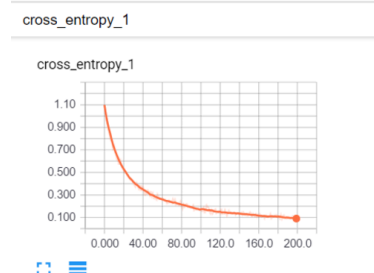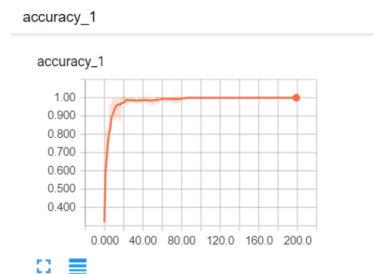
a.

Retrain Inception Model final layer for Image Dataset that is not covered in class. Report accuracy etc.
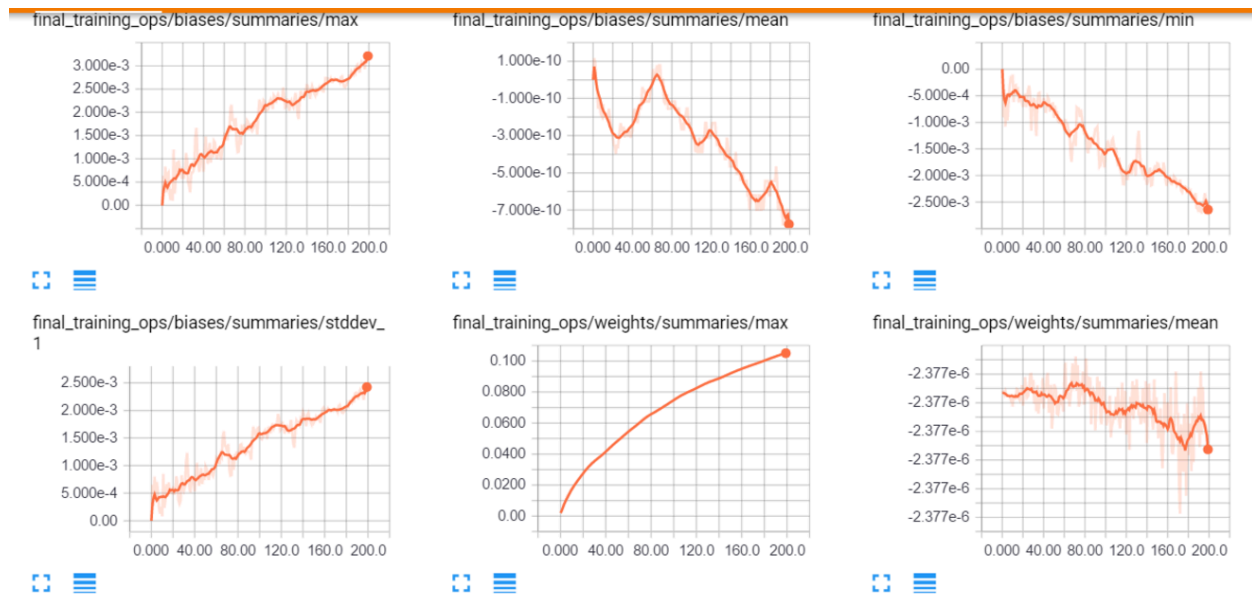
```
2017-04-05 17:05:50.028475: Step 150: Validation accuracy = 100.0% (N=100)
2017-04-05 17:05:51.012993: Step 160: Train accuracy = 100.0%
2017-04-05 17:05:51.012993: Step 160: Cross entropy = 0.109297
2017-04-05 17:05:51.106725: Step 160: Validation accuracy = 100.0% (N=100)
2017-04-05 17:05:52.119559: Step 170: Train accuracy = 100.0%
2017-04-05 17:05:52.119559: Step 170: Cross entropy = 0.102341
2017-04-05 17:05:52.213309: Step 170: Validation accuracy = 100.0% (N=100)
2017-04-05 17:05:53.197790: Step 180: Train accuracy = 100.0%
2017-04-05 17:05:53.197790: Step 180: Cross entropy = 0.099066
2017-04-05 17:05:53.307217: Step 180: Validation accuracy = 100.0% (N=100)
2017-04-05 17:05:54.307325: Step 190: Train accuracy = 100.0%
2017-04-05 17:05:54.307325: Step 190: Cross entropy = 0.098645
2017-04-05 17:05:54.416709: Step 190: Validation accuracy = 100.0% (N=100)
2017-04-05 17:05:55.308143: Step 199: Train accuracy = 100.0%
2017-04-05 17:05:55.308143: Step 199: Cross entropy = 0.088797
2017-04-05 17:05:55.417566: Step 199: Validation accuracy = 100.0% (N=100)
Final test accuracy = 100.0% (N=18)
Converted 2 variables to const ops.

Process finished with exit code 0
```
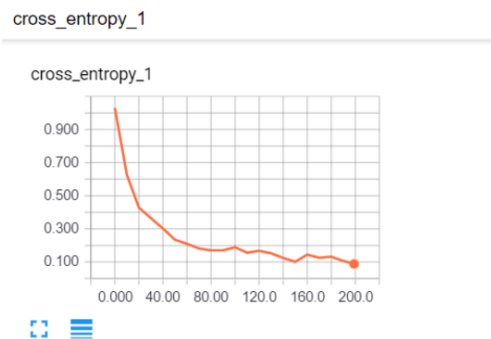
b.

Visualizations (Tensor Board): training, loss, weights etc. and validation

final_training_ops/biases/summaries/max

final_training_ops/biases/summaries/mean

final_training_ops/biases/summaries/min

final_training_ops/biases/summaries/stddev_1

final_training_ops/weights/summaries/max

final_training_ops/weights/summaries/mean

c.
Report Confusion Matrix for training and validation/testing.

accuracy_1

accuracy_1

cross_entropy_1

cross_entropy_1

final_training_ops/biases/summaries/max

final_training_ops/biases/summaries/mean

final_training_ops/biases/summaries/min

final_training_ops/biases/summaries/stddev_1

final_training_ops/weights/summaries/max

final_training_ops/weights/summaries/mean
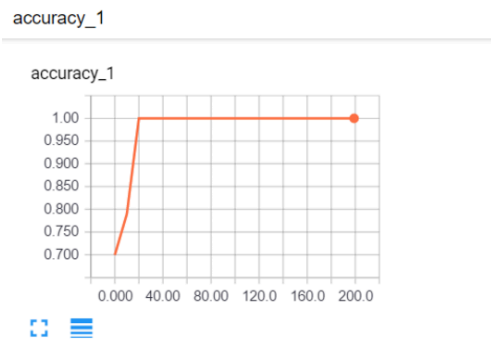
2.

Develop a Web-based Application for Visual Question Answering that is relevant to your own project including the following features

I built this applcaiton which can upload the local img file and directly show the img on the screen, and base on the question like "topic" we will realize the Visual Question Answering, I try to connect tensor-flow api using tf.image.decode_png, the feature code is like tf.image.decode_png(contents, channels=None, dtype=None, name=None), here shows the screenshot of the application

Choose File   7.jpg

e.g. topic...   check answer

the answer is:

Choose File 📄 7.jpg

topic   check answer

the answer is: the picture is talking about grape