

CS5542 Big Data Analytics and App

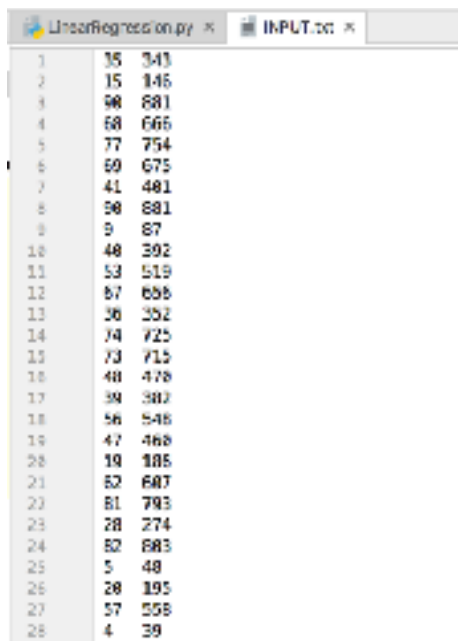
LAB ASSIGNMENT #7

1.TensorFlow Programming:

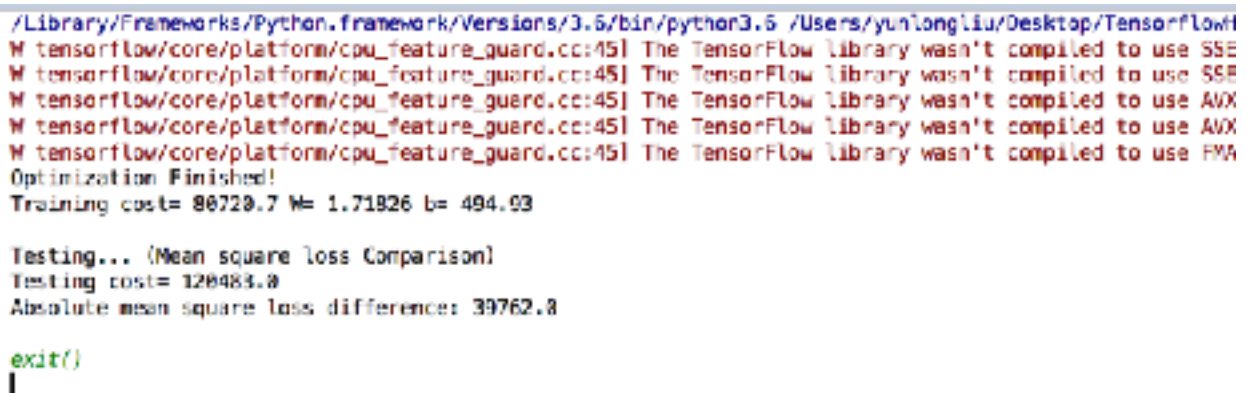
Write a TensorFlow program for the following Task.

a.Implement linear regression for dataset that is not covered in class (e.g. Boston Dataset -<https://archive.ics.uci.edu/ml/datasets/Housing>).

I create my own data set for this lab assignment, let me briefly describe it, I set this case into such situation that, using this process to find the linear regression within the $G=mg$, the first column means the mass a set of objects and the second column means the corresponding gravity of these objects, the when run the data set with this process, then we can finally get the result like following screenshot.



1	15	343
2	15	146
3	98	681
4	68	666
5	77	754
6	69	675
7	41	481
8	98	881
9	9	87
10	48	392
11	53	519
12	87	658
13	36	352
14	74	725
15	73	715
16	48	478
17	39	382
18	56	548
19	47	468
20	19	185
21	82	687
22	81	793
23	28	274
24	82	683
25	5	48
26	28	195
27	57	558
28	4	39



```
/Library/Frameworks/Python.framework/Versions/3.6/bin/python3.6 /Users/yunlongliu/Desktop/TensorflowH
W tensorflow/core/platform/cpu_feature_guard.cc:45] The TensorFlow library wasn't compiled to use SSE
W tensorflow/core/platform/cpu_feature_guard.cc:45] The TensorFlow library wasn't compiled to use SSE
W tensorflow/core/platform/cpu_feature_guard.cc:45] The TensorFlow library wasn't compiled to use AVX
W tensorflow/core/platform/cpu_feature_guard.cc:45] The TensorFlow library wasn't compiled to use AVX
W tensorflow/core/platform/cpu_feature_guard.cc:45] The TensorFlow library wasn't compiled to use FMA
Optimization Finished!
Training cost= 88728.7 W= 1.71826 b= 494.93

Testing... (Mean square loss Comparison)
Testing cost= 128483.8
Absolute mean square loss difference: 39762.8

exit()
|
```

b.Plot training cost using Matplotlib in python.

When using Matplotlib to show the graphical output, I got following result, as you can see from the figure, the input error range is very small, so that it shows us approximately a straight line.

