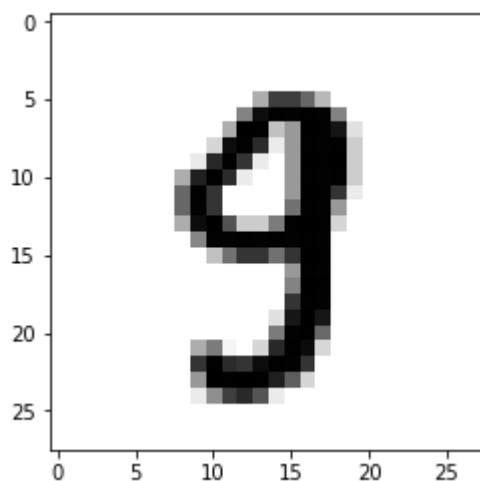


Python 3.6.2 |Anaconda custom (64-bit)| (default, Sep 19 2017, 08:03:39) [MSC v.1900 64 bit (AMD64)]
Type "copyright", "credits" or "license" for more information.

IPython 6.1.0 -- An enhanced Interactive Python.

Restarting kernel...

```
In [1]: runfile('C:/Users/raven/Google Drive/MSEE/EE 258/Projects/Project
1/Linear_SGD.py', wdir='C:/Users/raven/Google Drive/MSEE/EE 258/Projects/Project
1')
```



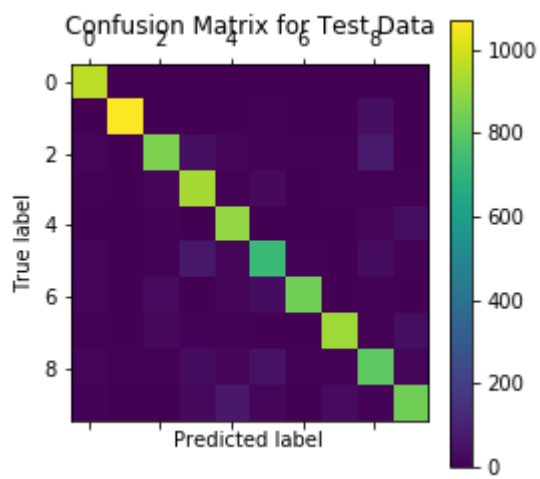
prediction is [3.]
label is 9.0

Predicted Labels for Test Images: [1. 2. 4. ..., 4. 9. 4.]

The Cross-Validation score is [0.87742452 0.86944347 0.87768165]

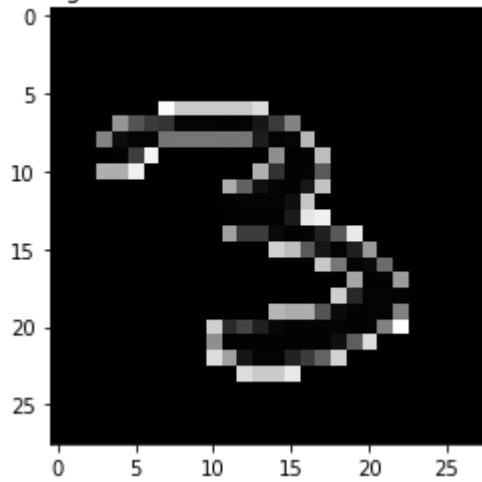
The Confusion Matrix for Test Data:

[	967	0	0	2	2	1	2	2	3	1]
[	0	1073	3	4	0	6	3	0	46	0]
[	15	3	861	38	17	6	6	6	78	2]
[	7	0	15	928	5	28	1	11	9	6]
[	3	2	11	3	900	0	4	1	18	40]
[	14	3	5	69	19	727	11	3	36	5]
[	20	3	32	4	13	36	840	0	10	0]
[	5	4	29	9	12	1	0	921	8	39]
[	20	6	8	35	18	53	5	11	805	13]
[	12	3	3	22	72	14	0	31	12	840]]

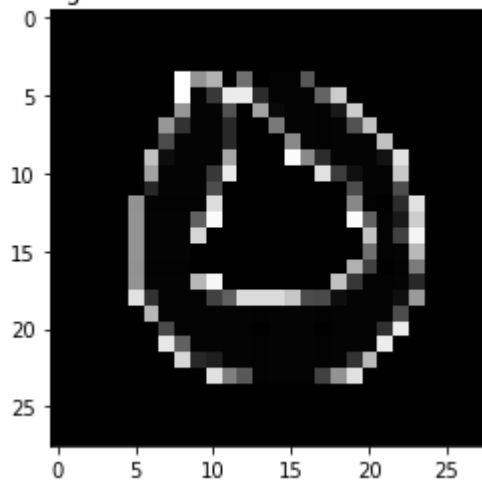


The test error for Linear Classifier is 20563.0

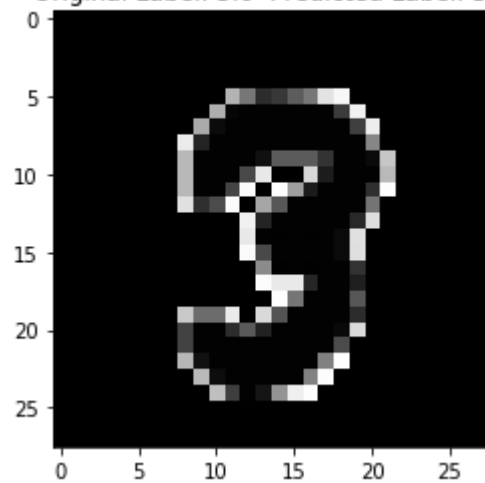
Original Label: 3.0 Predicted Label: 3.0



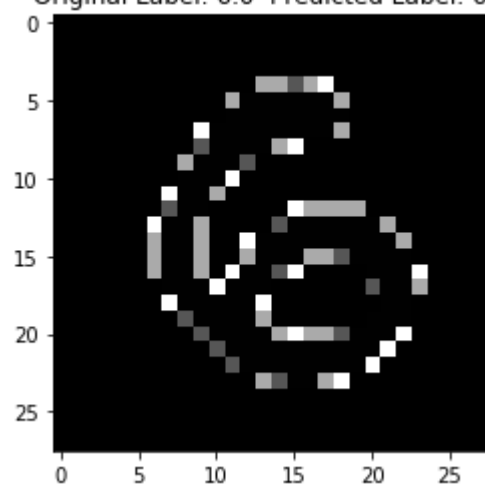
Original Label: 0.0 Predicted Label: 0.0



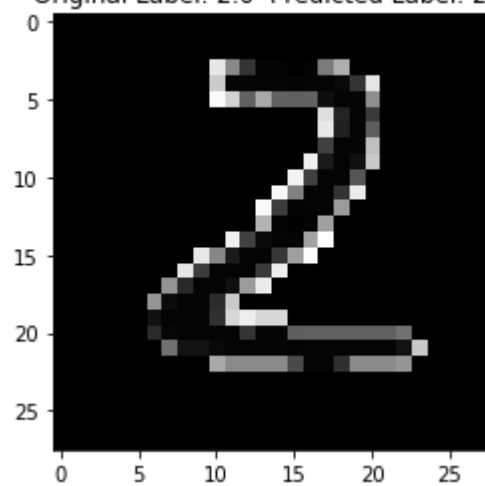
Original Label: 3.0 Predicted Label: 3.0



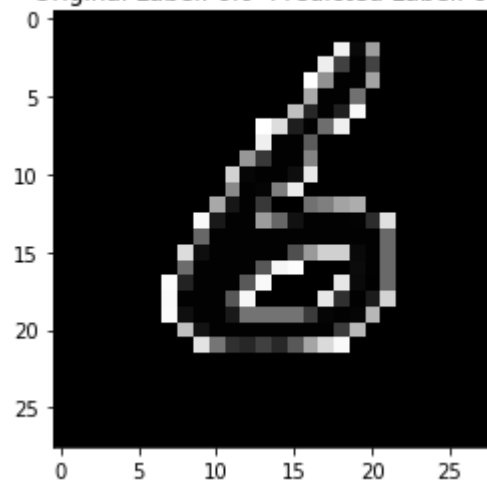
Original Label: 6.0 Predicted Label: 6.0



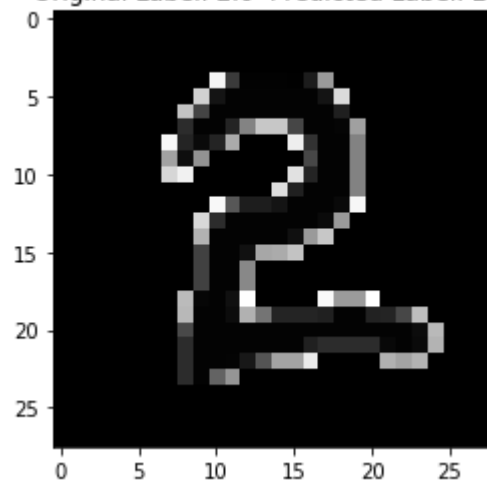
Original Label: 2.0 Predicted Label: 2.0



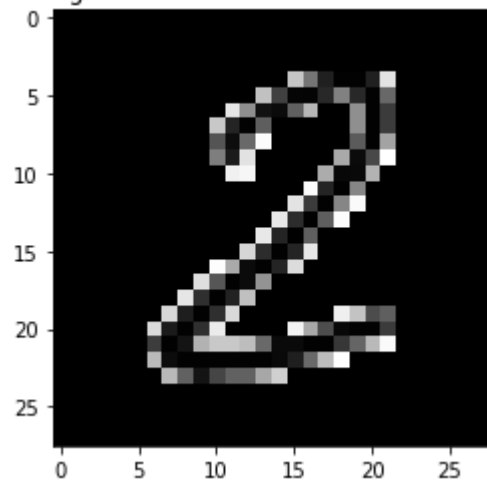
Original Label: 6.0 Predicted Label: 6.0



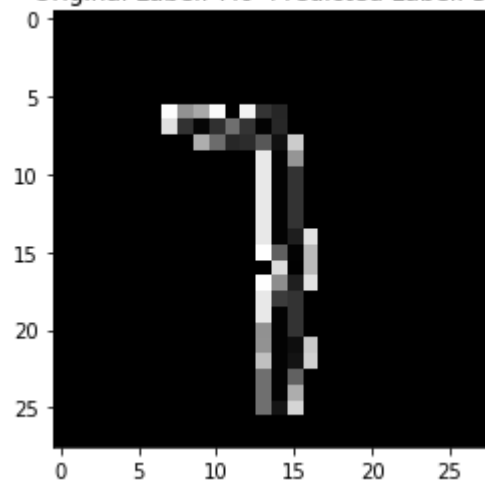
Original Label: 2.0 Predicted Label: 2.0



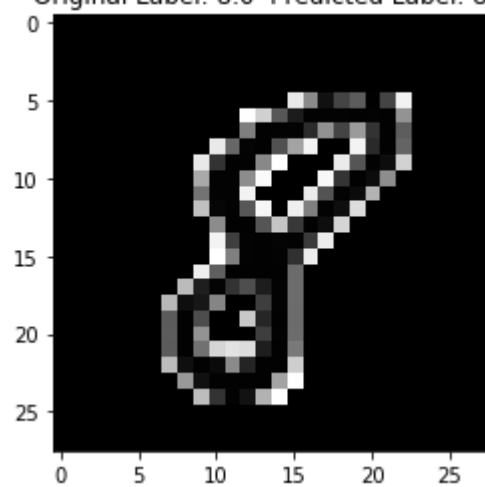
Original Label: 2.0 Predicted Label: 8.0



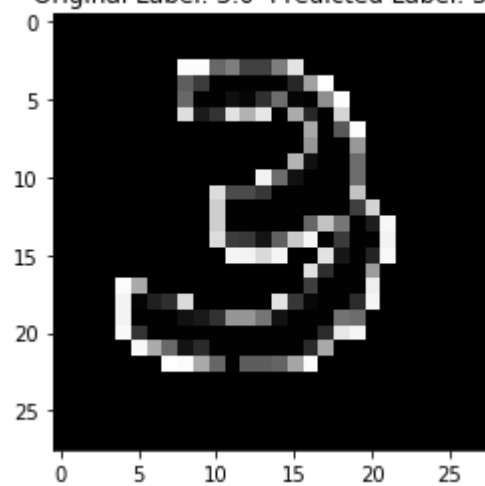
Original Label: 7.0 Predicted Label: 3.0



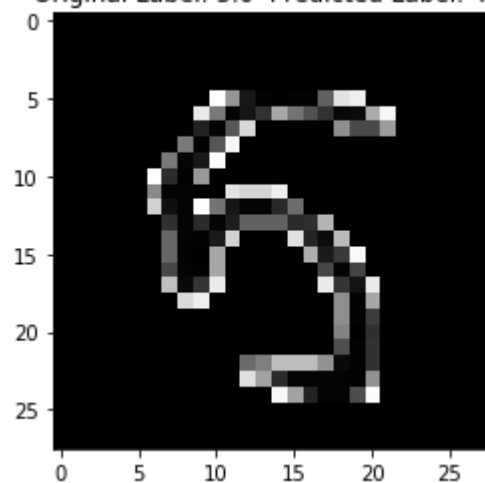
Original Label: 8.0 Predicted Label: 8.0



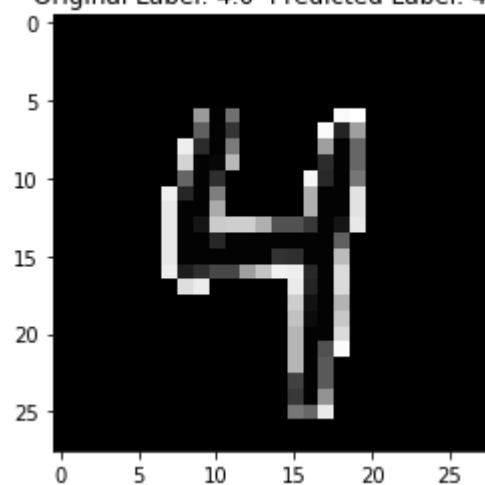
Original Label: 3.0 Predicted Label: 3.0



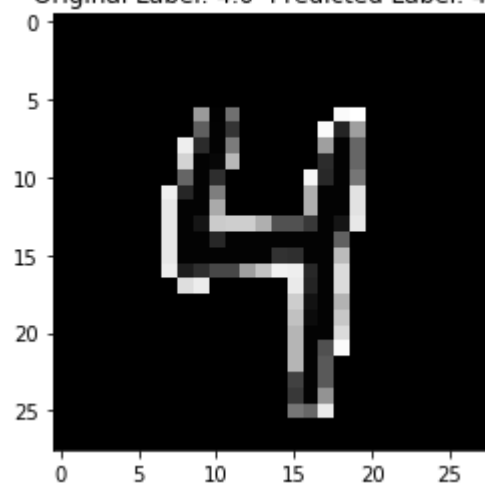
Original Label: 5.0 Predicted Label: 4.0



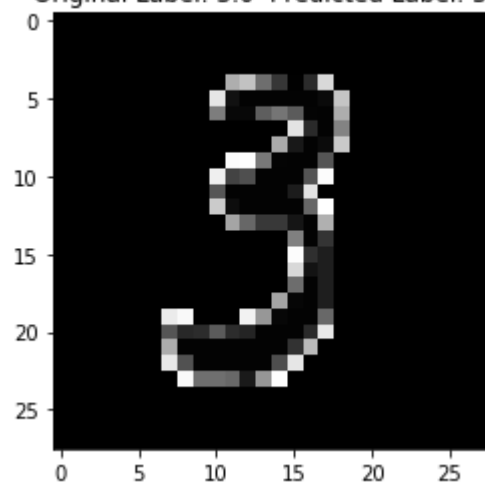
Original Label: 4.0 Predicted Label: 4.0



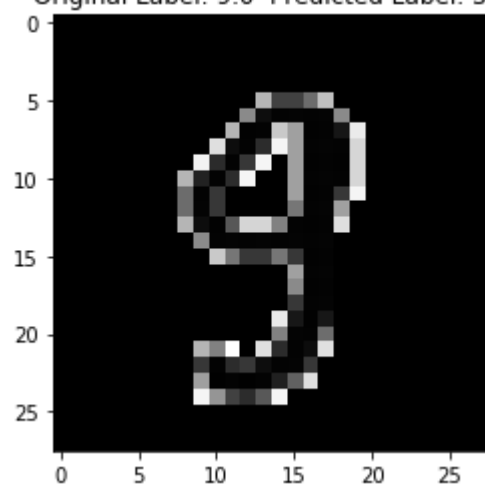
Original Label: 4.0 Predicted Label: 4.0



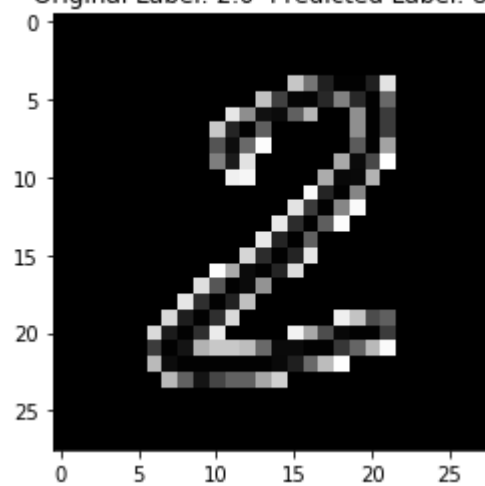
Original Label: 3.0 Predicted Label: 3.0



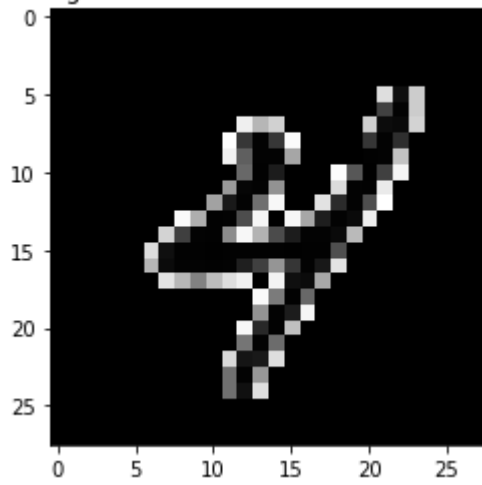
Original Label: 9.0 Predicted Label: 3.0



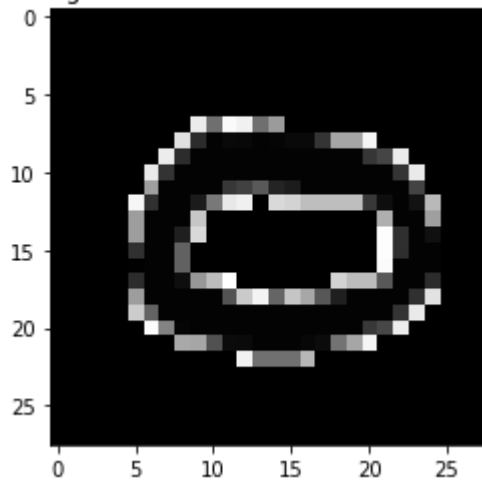
Original Label: 2.0 Predicted Label: 8.0



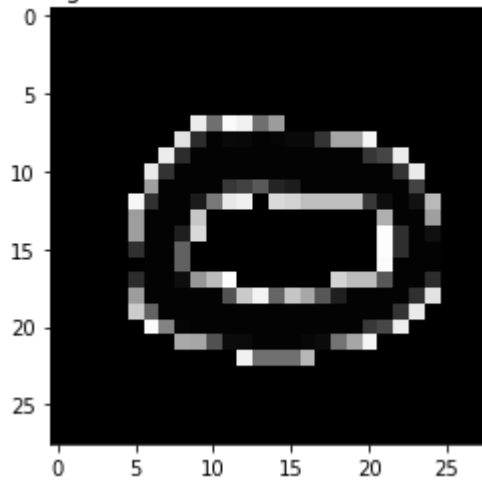
Original Label: 4.0 Predicted Label: 4.0



Original Label: 0.0 Predicted Label: 0.0



Original Label: 0.0 Predicted Label: 0.0



The Models Accuracy is 0.8862

In [2]: