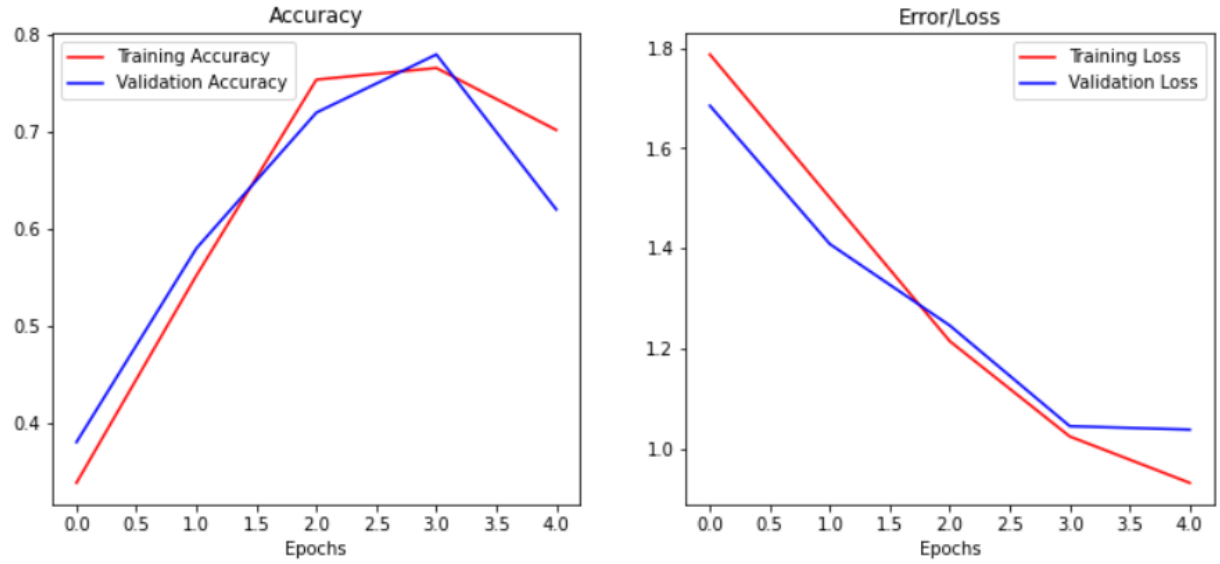
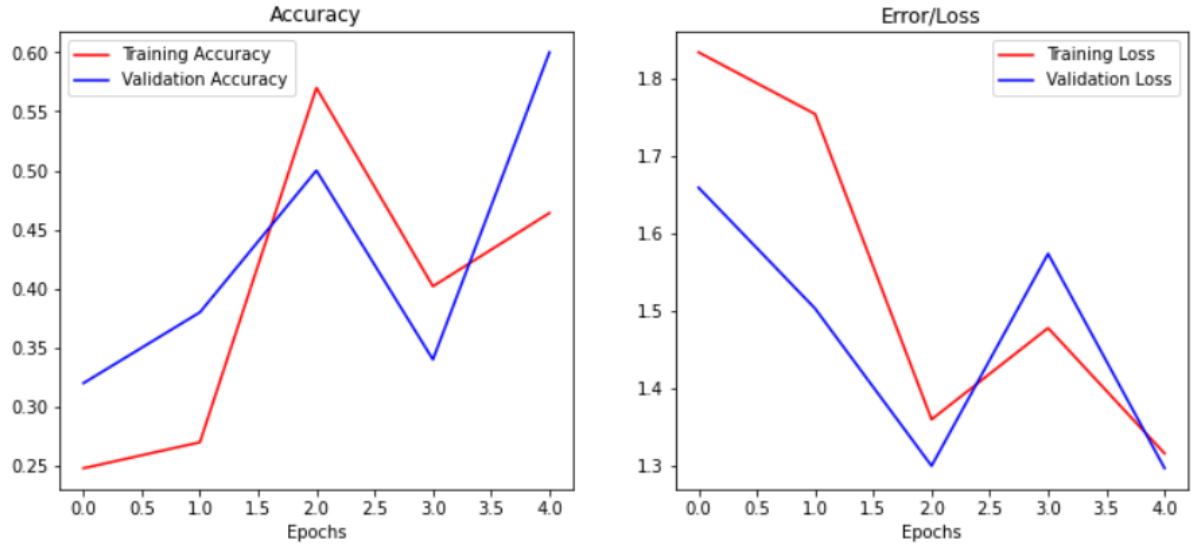
Results of Model for Learning rate 0.01:

```
Epoch = 0, accuracy = 0.338000, error = 1.787441
Epoch = 1, accuracy = 0.552000, error = 1.501353
Epoch = 2, accuracy = 0.754000, error = 1.214837
Epoch = 3, accuracy = 0.766000, error = 1.024674
Epoch = 4, accuracy = 0.702000, error = 0.932032
```



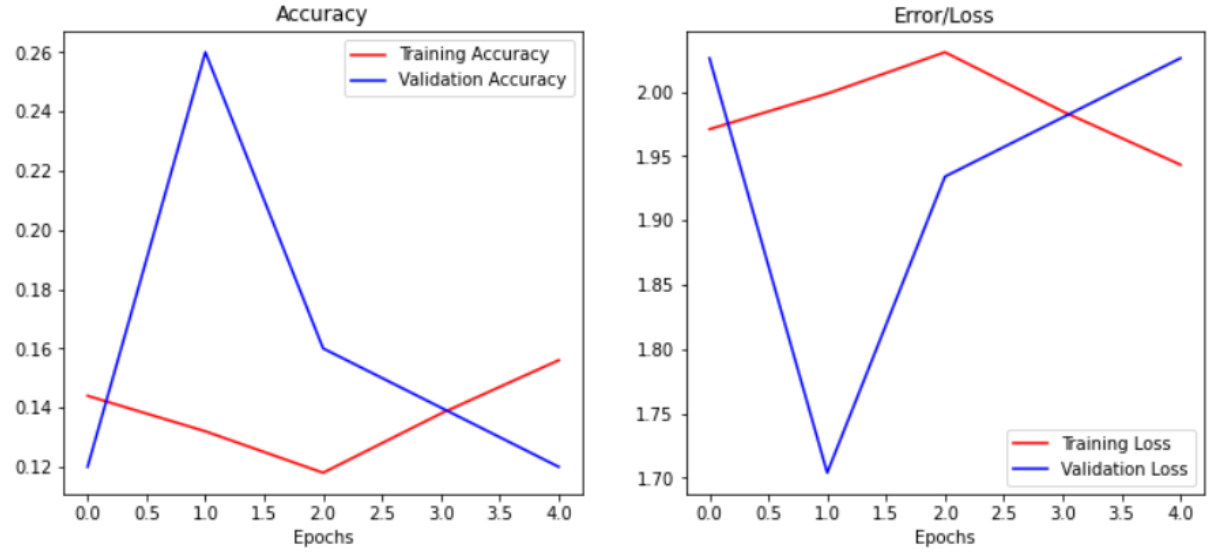
Results of Model for Learning rate 0.1:

```
Epoch = 0, accuracy = 0.248000, error = 1.833797
Epoch = 1, accuracy = 0.270000, error = 1.754010
Epoch = 2, accuracy = 0.570000, error = 1.359299
Epoch = 3, accuracy = 0.402000, error = 1.477462
Epoch = 4, accuracy = 0.464000, error = 1.315269
```



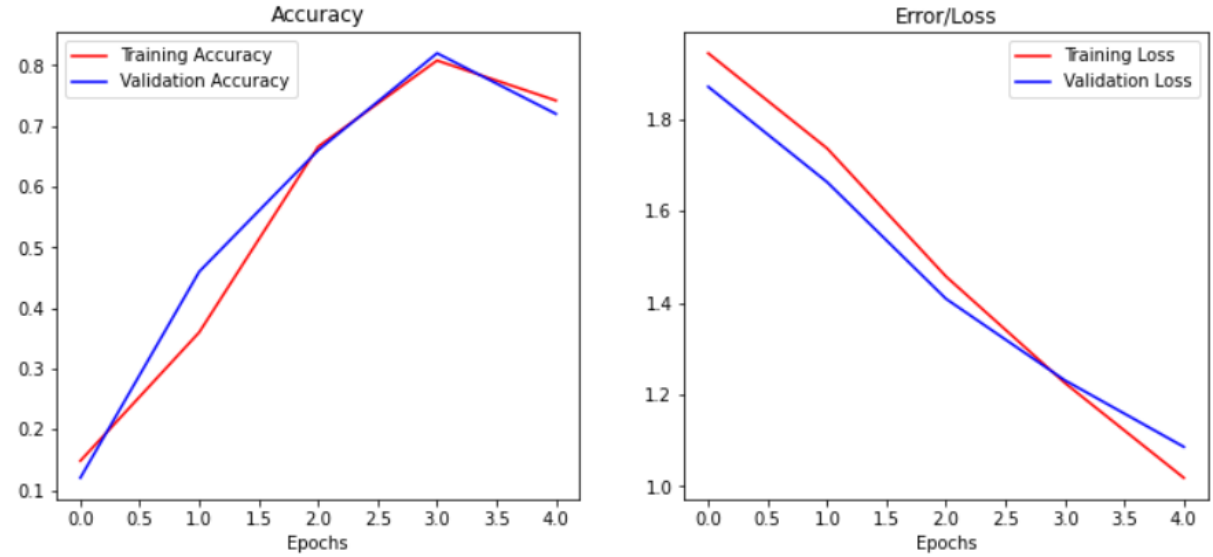
Results of Model for Learning rate 1:

```
Epoch = 0, accuracy = 0.144000, error = 1.971005
Epoch = 1, accuracy = 0.132000, error = 1.998636
Epoch = 2, accuracy = 0.118000, error = 2.030872
Epoch = 3, accuracy = 0.138000, error = 1.984820
Epoch = 4, accuracy = 0.156000, error = 1.943374
```



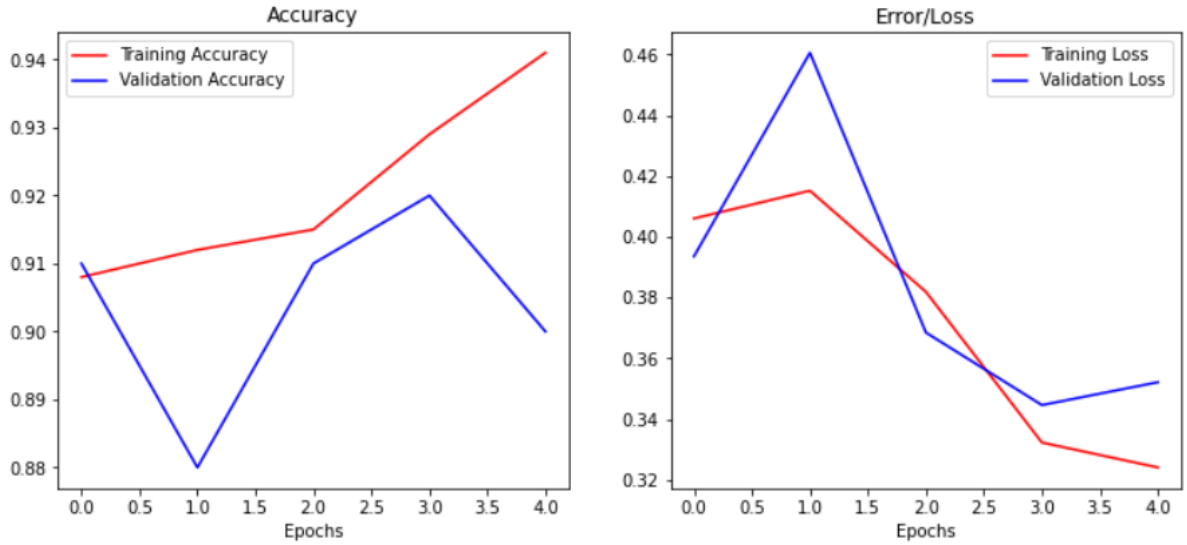
Results of Model for Batch size 100 & Learning rate 0.01:

```
Epoch = 0, accuracy = 0.148000, error = 1.944140
Epoch = 1, accuracy = 0.360000, error = 1.736766
Epoch = 2, accuracy = 0.666000, error = 1.457470
Epoch = 3, accuracy = 0.808000, error = 1.225271
Epoch = 4, accuracy = 0.742000, error = 1.018546
```



Training Model Results for Batch size 50 & Learning rate 0.01:

```
Epoch = 0, accuracy = 0.908000, error = 0.406059
Epoch = 1, accuracy = 0.912000, error = 0.415198
Epoch = 2, accuracy = 0.915000, error = 0.381893
Epoch = 3, accuracy = 0.929000, error = 0.332283
Epoch = 4, accuracy = 0.941000, error = 0.324086
```



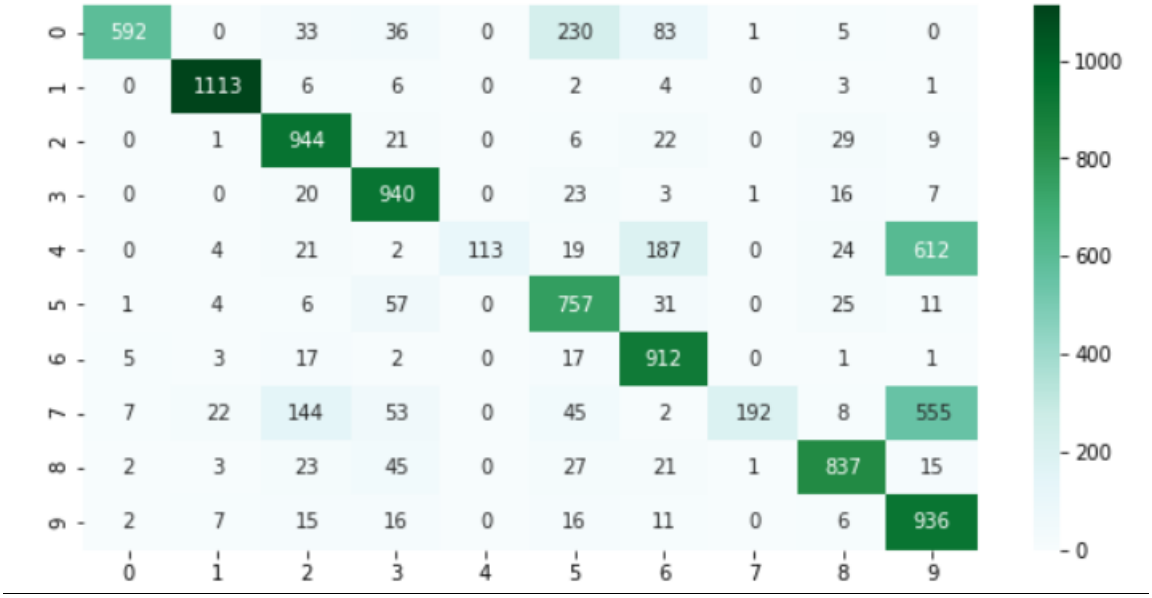
Model Accuracy for Test data: 0.7336

Test data Classification Report:

Test Classification Report:

	precision	recall	f1-score	support
0	0.97	0.60	0.75	980
1	0.96	0.98	0.97	1135
2	0.77	0.91	0.84	1032
3	0.80	0.93	0.86	1010
4	1.00	0.12	0.21	982
5	0.66	0.85	0.74	892
6	0.71	0.95	0.82	958
7	0.98	0.19	0.31	1028
8	0.88	0.86	0.87	974
9	0.44	0.93	0.59	1009
accuracy			0.73	10000
macro avg	0.82	0.73	0.70	10000
weighted avg	0.82	0.73	0.70	10000

Confusion Matrix:



I have performed the training on random data as full data takes a lot of time to train the model. My device got stuck every time after 1 hour. Kindly consider this issue.