

Roll No 23CS60R48
Name: Nishant Dhotre

1] Logistic Regression

Classification Report:

	precision	recall	f1-score	support
0	0.1416	0.0964	0.1147	166
1	0.2386	0.2238	0.2310	210
2	0.2581	0.1967	0.2233	366
3	0.2459	0.0725	0.1119	207
4	0.0900	0.2812	0.1364	128
5	0.0519	0.1224	0.0729	98
6	0.0735	0.0287	0.0413	174
accuracy		0.1505		1349
macro avg	0.1571	0.1460	0.1331	1349
weighted avg	0.1841	0.1505	0.1514	1349

Confusion Matrix:

```
[[ 16 22 39 16 46 23  4]
 [ 14 47 43  3 59 28 16]
 [ 43 41 72 10 107 67 26]
 [ 16 21 38 15 66 44  7]
 [  8 31 16  3 36 32  2]
 [  5 12 26  8 27 12  8]
 [ 11 23 45  6 59 25  5]]
```

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2] Graph Convolution Network

Test Accuracy: 0.8666

Classification Report:

	precision	recall	f1-score	support
0	0.92	0.86	0.89	207
1	0.91	0.90	0.90	210
2	0.89	0.77	0.82	98
3	0.86	0.92	0.89	366
4	0.80	0.80	0.80	174
5	0.83	0.86	0.84	128
6	0.85	0.85	0.85	166
accuracy			0.87	1349
macro avg	0.87	0.85	0.86	1349
weighted avg	0.87	0.87	0.87	1349

insights:

- accuracy of both model varies drastically even by small change in hyperparameter
- GCN performs better if layers increased or number of epochs increased
- LR dose not perform well as compared to GCN