

## Logistic Regression

**Accuracy:** 0.8941068139963168

**Precision:** 0.8944642432270943

**Recall:** 0.8941068139963168

**F1:** 0.8957474907615731

**Confusion Matrix:**

```
[[118 1 4 1 1 3 7]
 [ 5 169 8 0 2 0 0]
 [ 4 4 253 11 2 1 6]
 [ 2 0 8 135 0 0 9]
 [ 0 0 4 1 110 0 0]
 [ 1 0 1 0 3 66 1]
 [ 6 2 9 5 1 2 120]]
```

### Insights

While training found that with increase in the walk length and embedding vector length, the accuracy kept on increasing.

Also tried to change the values of p and q.

Found p and q were having little effect on accuracy as compared to walk length and embedding vector length.

## Graph Convolutional Networks (GCN)

**Accuracy:** 0.9421793921423276

**Precision:** 0.9427735977771232

**Recall:** 0.9421793921423276

**F1:** 0.9417162517909194

**Confusion Matrix:**

```
[[345 0 2 6 8 1 4]
 [ 0 90 0 0 6 0 2]
 [ 4 0 120 0 0 4 0]
 [ 6 0 0 194 6 0 1]
 [ 7 1 0 4 159 0 3]
 [ 1 0 1 0 0 207 1]
 [ 2 1 1 0 3 3 156]]
```

### Insights

On comparing with Logistic Regression, found that Graph Convolution Network model outperformed Logistic Regression.

With Graph Convolution Network model, found that with increased epochs, the accuracy was also increasing.