Confusion Matrix - Definition & Formulas

	Predicted Positive	**Predicted Negative**
Actual Positive	**TP**	**FN**
Actual Negative	**FP**	**TN**

1. **Precision**
    - The percentage of positive predictive value to the sum of correctly predicted positive and wrongly predicted positive
    - Out of all positive predictions, how many are actually positive?

    Formula =TP/TP+FP

2. **Recall** - Out of all positive inputs, how much did it predict correctly as positive?

    Formula =TP/TP+FN

3. **F1-score** - Overall performance of true positive/true negative

    Formula =2* recall*precision/recall+precision

4. **Accuracy** - What is the overall correctness/performance/prediction of the model

    Formula =TP+TN/TP+TN+FN+FP

5. **Macro avg** - Average performance of recall, precision & F1 measure
   recall= recall(TP)+recall(TN)/2
   Precision = precision (TP)+precision(TN)/2

6. **Weighted avg** - how many instances belong to each class
   Precision = precision(TP)* (total count of TP/total input)/ precision(TN)* (total count of TN/total input)