Example: Multiclass Confusion Matrix

Irris Dataset		Actual Class (Condition Given)		
		SETOSA	VERSICOLR	VIRGINICA
Predicted Class (Outcome)	SETOSA	16	0	0
	VERSICOLR	0	17	0
	VIRGINICA	0	1	11

◉ To apply a classifier model to Iris dataset to classify the given instance as Versicolor or Virginia, or Setosa flower.
◉ With the help of petal length, petal width, sepal length, and sepal width, the model has to classify the given instance as Versicolor or Virginia, or Setosa flower.
◉ The dataset has 3 classes; hence we get a 3 X 3 confusion matrix.

◉ **Let us calculate the TP, TN, FP, and FN values for the class Setosa using the Above tricks:**

TP: The actual value and predicted value should be the same.
So concerning Setosa class, the value of cell 1 is the TP value.

FN: The sum of values of corresponding rows except for the TP value.
FN = (cell 2 + cell3) = (0 + 0)= 0

FP: The sum of values of the corresponding column except for the TP value.
FP = (cell 4 + cell 7)= (0 + 0)= 0

TN: The sum of values of all columns and rows except the values of that class.
TN = (cell 5 + cell 6 + cell 8 + cell 9)= 17 +0 + 1 + 11= 29

◉ **Similarly, for the Versicolor class, the values/metrics are calculated as below:**

TP: 17 (cell 5)

FN : 0 + 1 = 1 (cell 4 +cell 8)

FP : 0 + 0 = 0 (cell 2 + cell 6)

TN : 16 +0 +0 + 11 =27 (cell 1 + cell 3 + cell 7 + cell 9).