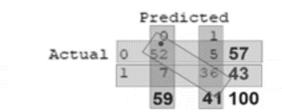|	1 (Predicted)	0 (Predicted)
1 (Actual)	True Positive	False Negative
0 (Actual)	False Positive	True Negative

Confusion matrix is used to measure the performance of the logistic regression. It has two rows and two columns.

- The two rows represent the actual events; the first row when the event happened, and the second row when the event didn't happen.

- The two columns represent the prediction of the logistic regression; the first column when the logistic regression predicts the event will happen and the second column when the logistic regression predict that event will not happen

- There are intersections between the rows and columns;

  - the first intersection is between the actual one and the predicted one, referred to as **True Positive**. **True** means that the predictions come true. **Positive** means it happened.

  - the second intersection is between the actual one and the predicted zero, referred to as **False Negative. False** means that the prediction is wrong or false and **Negative** means logistic regression predicted something not to happen and actually it happened.

  - the third intersection is between actual zero and predicted one, referred to as **False Positive. False** means the prediction is wrong, and predicted something to happen and it didn't happen. **Positive** means a prediction of something to happen and actually didn't happen so that's why the prediction is positive but actually it's negative or it didn't happen.

  - At the fourth intersection, both the prediction and actual are zero, referred to as **True Negative**. **True** means the prediction comes true. **Negative** means the event did not happen.

Example

100 Customers

	Predicted		
	0	1	
Actual 0	52	5	57
1	7	36	43
	59	41	100

- First row = 52 + 5 = 57
- Second row = 7 + 36 = 43
  - The total customer is 100 (57 + 43)
- The predicted values = 52 + 7 = 59, and 5 + 36 = 41
  - The total customer is 100 (59 + 41)

100 Customers

	Predicted		
	0	1	
Actual 0	52	5	57
1	7	36	43
	59	41	100

- Logistic regression predicted 52 and 36 as the only true and correct values.
- Logistic regression predicted that the customer will not buy and they did not buy and 36 customers will buy and they bought.

52 + 36 = 88

88/100 = 88%

The accuracy of the logistic regression is 88%, hence a good model
- The model above 80% is good
- The model above 90% is excellent