If we use a data set to test a classification model. There are 1000 cases in the data set, 700 of which are positive and rest are negative. After the classification model prediction, 600 cases (out of the 700 true positive cases) are predicted as positive and 400 cases are predicted as negative. Use confusion matrix to calculate the accuracy of this classification model.

1. How much is the True Positive Count (TP)? Specify the number.
2. How much is the False Positive Count (FP)? Specify the number.
3. How much is the True Negative Count (TN)? Specify the number.
4. How much is the False Negative Count (FN)? Specify the number.
5. What is the accuracy rate of this prediction?

|  |  |
| --- | --- |
| Formulas | |
| True Positive Rate | TP / TP + FN |
| False Positive Rate | FP / FP + TN |
| True Negative Rate | TN / TN + FP |
| False Negative Rate | FN / FN + TP |
| Accuracy | TP + TN / TP + TN + FP + FN |

|  |  |  |  |
| --- | --- | --- | --- |
| Values | | | |
| n=1,000 | Predicted | Predicted | Total |
| Actual | 400 | 300 | 700 |
| Actual | 200 | 100 | 300 |
| Total | 600 | 400 | n=1,000 |

|  |  |  |
| --- | --- | --- |
| Confusion matrix | | |
| n=1,000 | Predicted: Yes | Predicted: no |
| Actual: Yes | 0.67 (TP) | 0.75 (FP) |
| Actual: no | 033 (FN) | 0.25 (TN) |

1. How much is the True Positive Count (TP)? Specify the number.
   * 0.67
2. How much is the False Positive Count (FP)? Specify the number.
   * 0.75
3. How much is the True Negative Count (TN)? Specify the number.
   * 0.25
4. How much is the False Negative Count (FN)? Specify the number.
   * 0.33
5. What is the accuracy rate of this prediction?
   * 0.50