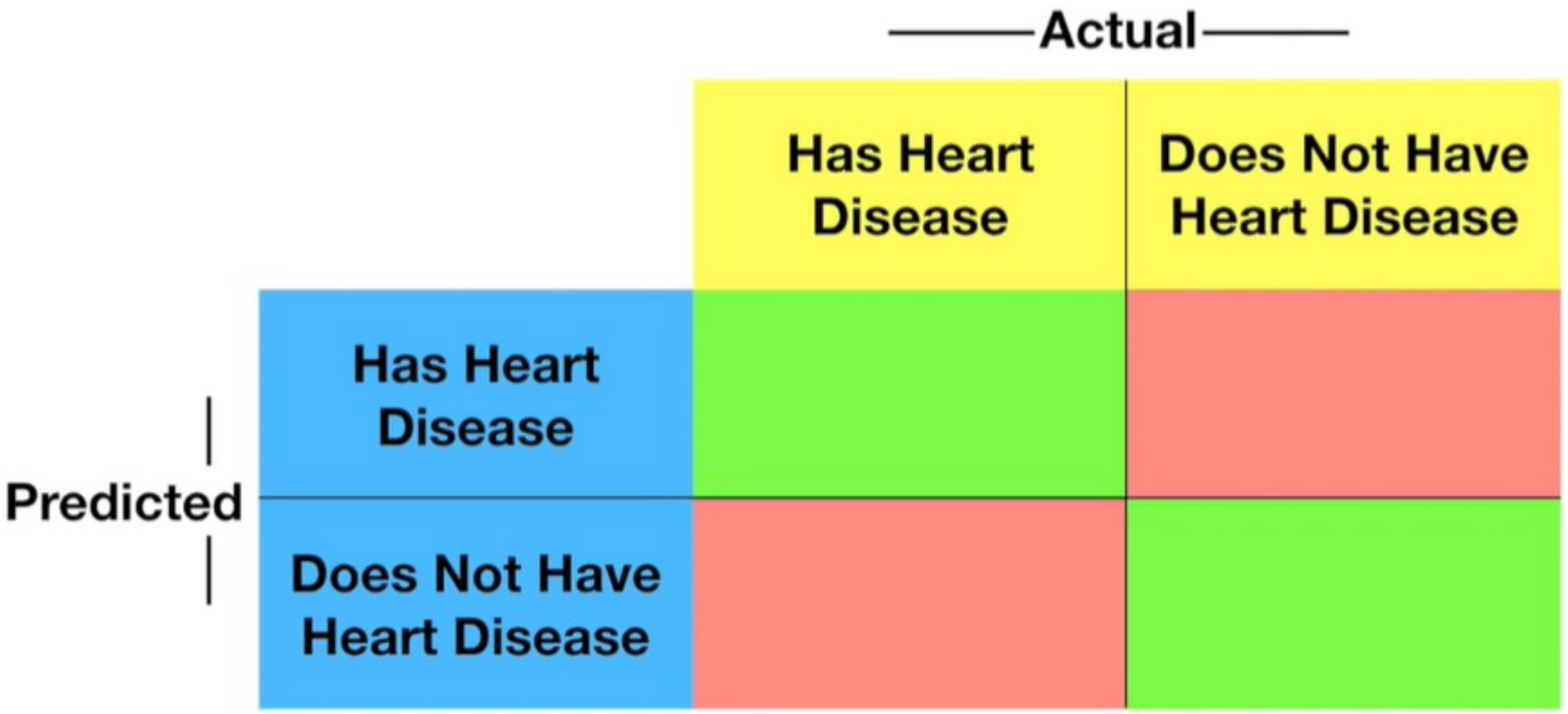
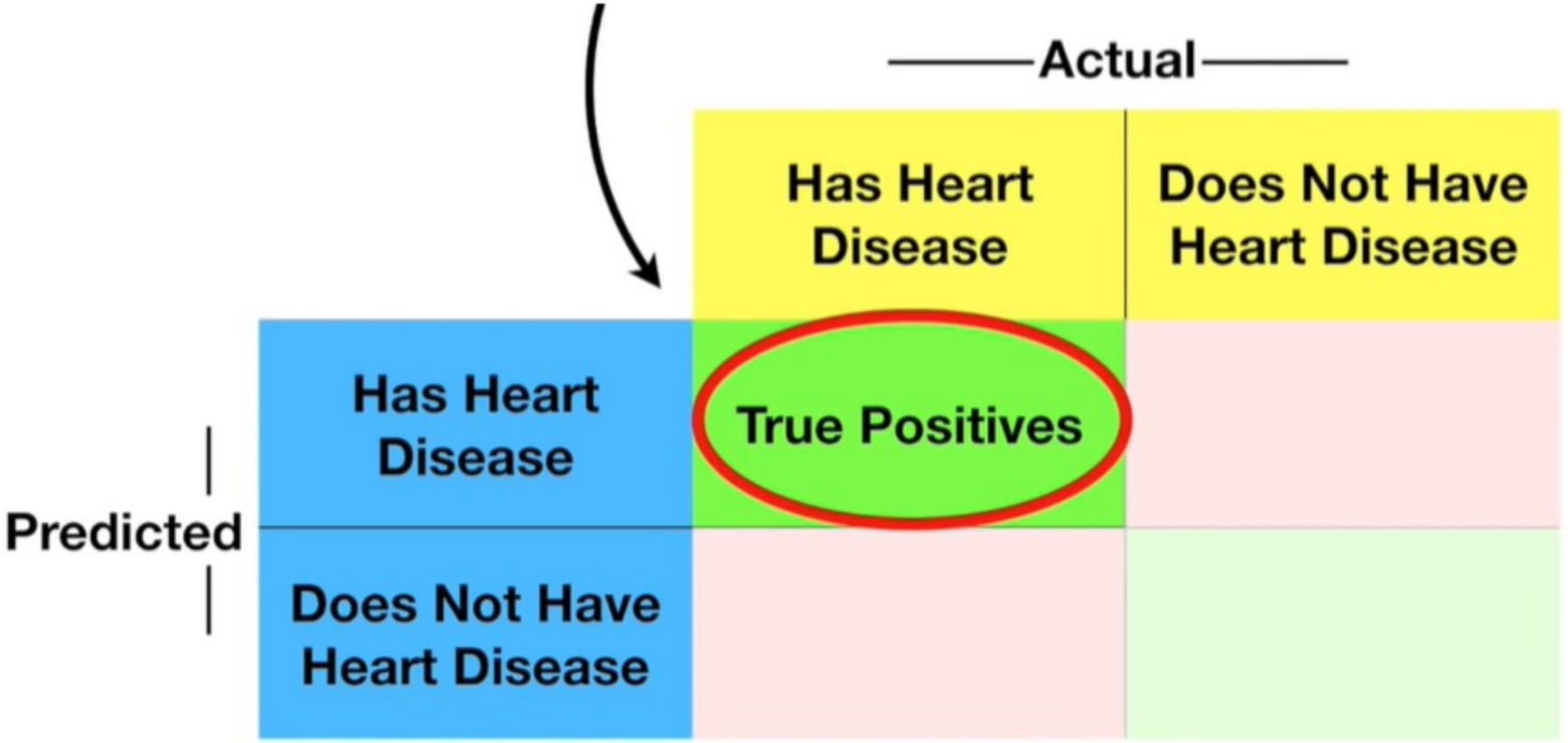
Confusion Matrix
Sensitivity
Specificity

Examples

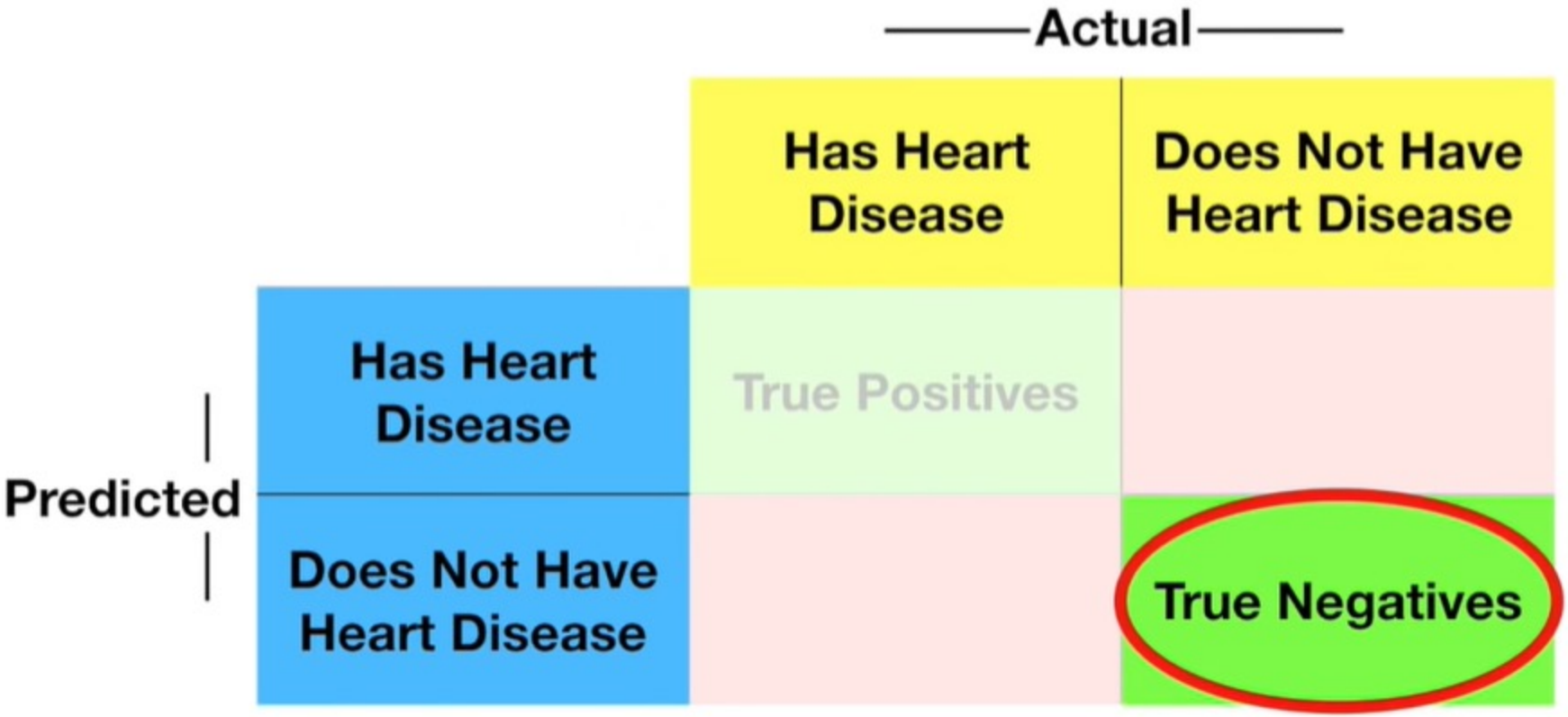
When there are only two categories to choose from
(in this case, the two choices were
"Has Heart Disease" and
"Does not have Heart Disease")…



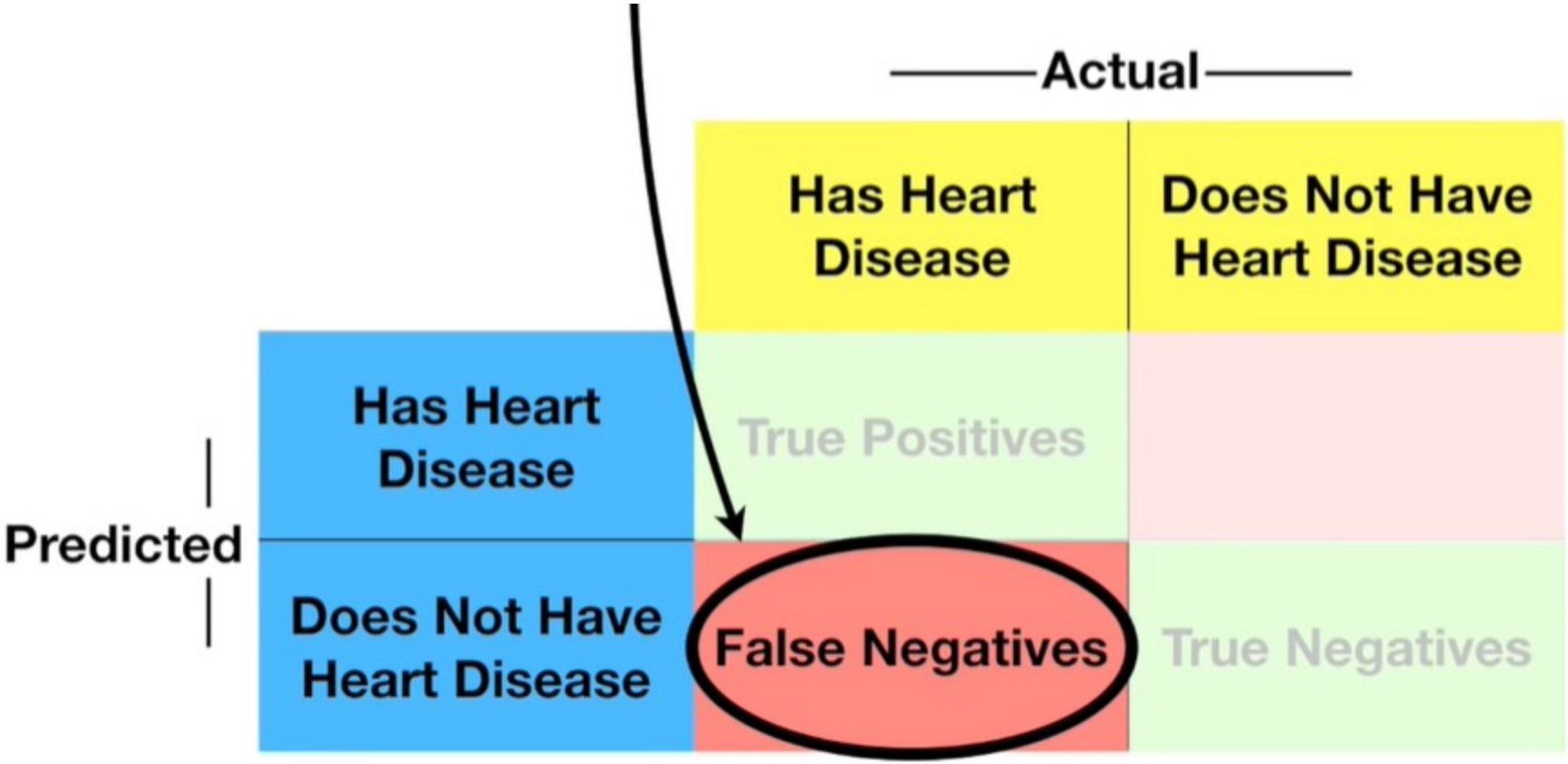
True positives



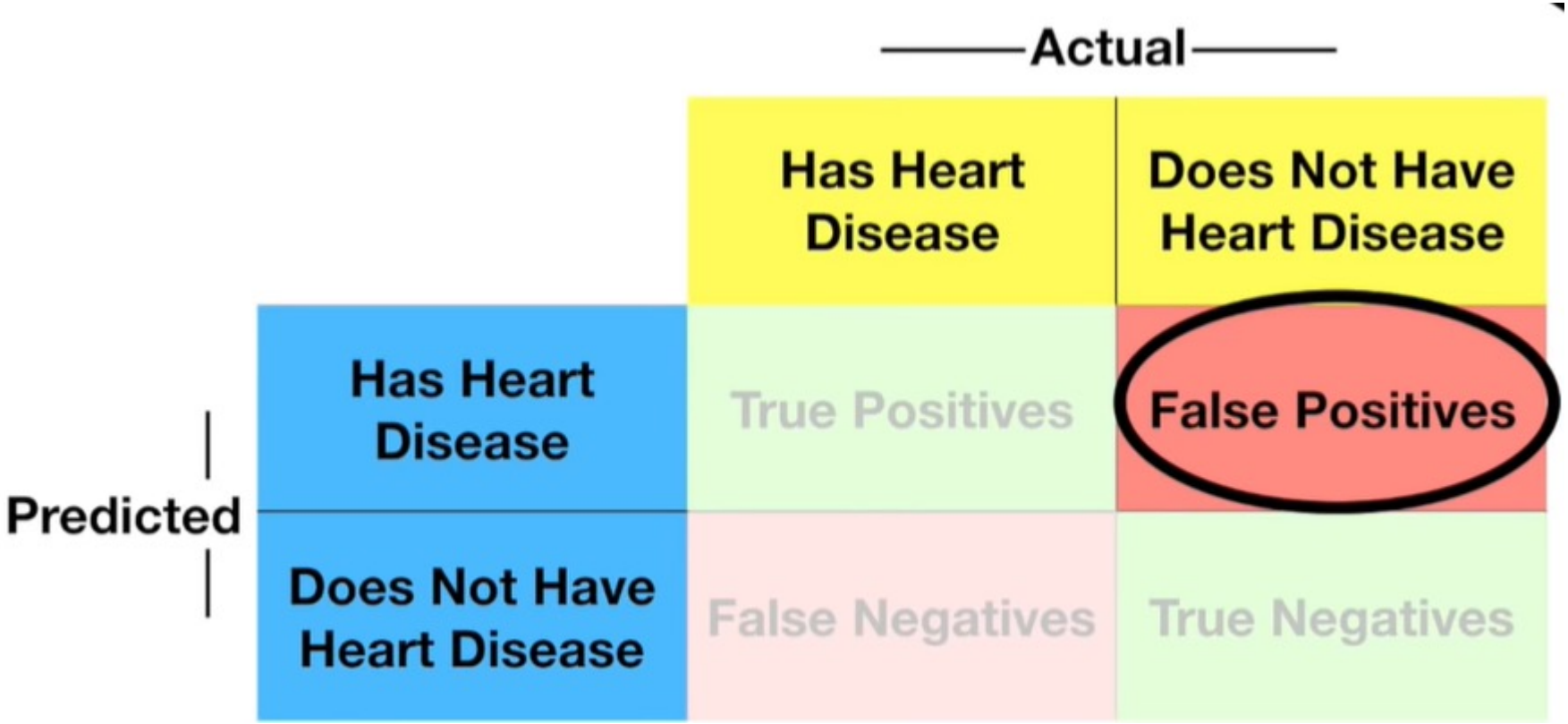
True Negatives



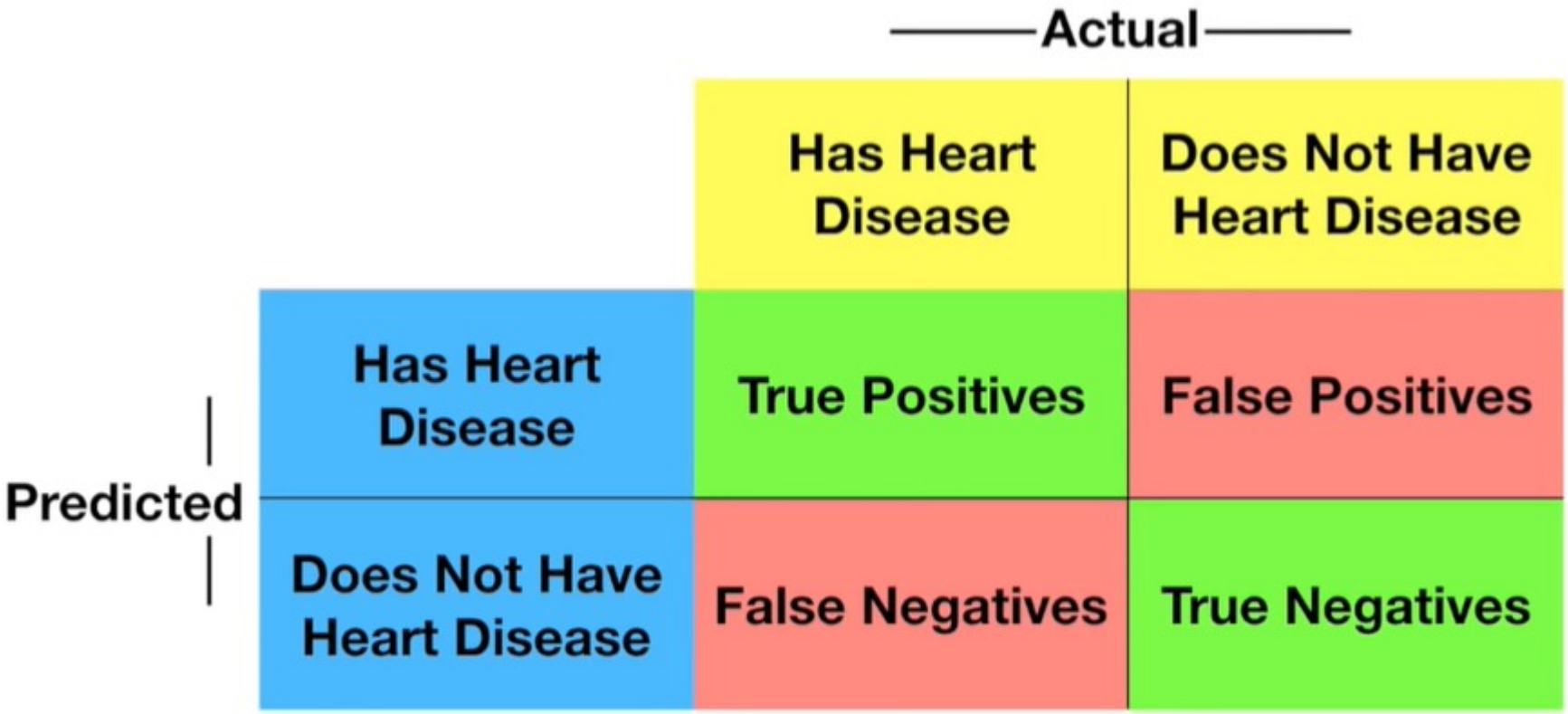
False Negatives



False Positives



Confusion matrix



Sensitivity

- A measure of how well a machine learning model can detect positive instances.
- sensitivity measures the ability of a model to correctly identify positive examples
- Sensitivity is used to evaluate model performance because it allows us to see how many positive instances the model was able to correctly identify.
- True Positive Rate (TPR) or recall
- A model with high sensitivity will have few false negatives
- **The sum of sensitivity (true positive rate) and false negative rate would be 1.**

- **Sensitivity = (True Positive)/(True Positive + False Negative)**

Specificity

- Specificity measures the proportion of true negatives that are correctly identified by the model.
- High specificity means that the model is correctly identifying most of the negative results, while a low specificity means that the model is mislabeling a lot of negative results as positive.
- **Specificity = (True Negative)/(True Negative + False Positive)**