What is a confusion matrix?

It is a form of table that is used in classification problems to assess where errors in the model were made.

The rows represent the actual classes the outcomes should have been. While the columns represent the predictions we have made.

A confusion matrix is a table that is used to define the performance of a [classification algorithm](https://www.sciencedirect.com/topics/engineering/classification-algorithm). A confusion matrix visualizes and summarizes the performance of a classification algorithm.

import matplotlib.pyplot as plt  
import numpy  
from sklearn import metrics  
  
actual = numpy.random.binomial(1,.9,size = 1000)  
predicted = numpy.random.binomial(1,.9,size = 1000)  
  
confusion\_matrix = metrics.confusion\_matrix(actual, predicted)  
  
cm\_display = metrics.ConfusionMatrixDisplay(confusion\_matrix = confusion\_matrix, display\_labels = [False, True])  
  
cm\_display.plot()  
plt.show()

Output

