



Explanation of the above program and result when '0' is actual Yes

Actual : 1 1 0 1 0 0 1 0 0 0 1 0 1

Predicted : 0 1 1 1 0 0 1 0 1 0 1 0 1

If '0' is the actual yes

Actual Yes(0) vs predicted Yes (TP) (0) = 5

Actual Yes(0) vs predicted No (FN)(1) = 2

Actual No(1) vs predicted No (TN)(1) = 5

Actual No(1) vs Predicted Yes (FP)(0) = 1

Confusion Matrix :

$$\begin{bmatrix} \text{TN} & \text{FP} \\ \text{FN} & \text{TP} \end{bmatrix} = \begin{bmatrix} 5 & 1 \\ 2 & 5 \end{bmatrix}$$

Accuracy = $(\text{TP} + \text{TN}) / (\text{TP} + \text{TN} + \text{FP} + \text{FN}) = (5 + 5) / (5 + 5 + 1 + 2) = 0.76$

Recall = $\text{TP} / (\text{TP} + \text{FN}) = 5 / (5 + 2) = 0.714$

Precision: $\text{TP} / (\text{TP} + \text{FP}) = 5 / (5 + 1) = 0.833$

F-measure = $(2 * \text{Recall} * \text{Precision}) / (\text{Recall} + \text{Precision})$

= $(2 * 0.833 * 0.714) / (0.833 + 0.714)$
= 0.77