

$$Accuracy = \frac{TN + TP}{TN + FP + TP + FN}$$

$$=(20+30)/(20+10+30+30)=0.5$$

0.5 accuracy means that the model predict 50% of the actual values are correct which means that this result not good because it's not help us to make a good decision.

$$Precision = \frac{TP}{TP + FP}$$

$$=(20)/(30+20)=0.4$$

0.4 of the precision means that the model is not very good.

The model predict the positive class correctly for 40%, where the model predict the positive class negative for 60%.

$$Recall = \frac{TP}{TP + FN}$$

$$=(20)/(20+10)=0.6$$

Recall of 0.6 means that out of all the actual positive class, the model correctly identified 60% of them.

$$F1 \text{ Score} = 2 * \frac{Precision * Recall}{Precision + Recall}$$

$$=(2*0.4*0.6)/(0.4+0.6)=0.48$$