1. What is f1 score?

Table

Description automatically generated

According to Wikipedia, f1 score is the harmonic mean of precision and recall:

Precision = TP/(TP+FP)

Recall (sensitivity) = TP/(TP+FN)

F1 score = 2\*P\*R/(P+R) # P for precision, R for recall

Give 2 use cases where it may be better than considering Sensitivity or Specificity alone for model evaluation.

Example 1: covid test

TP – get covid and tested covid

FP – healthy but tested covid

FN – get covid but tested healthy

TN – healthy and tested healthy

In this case, we do not want to miss the people who get the covid (lower FN, higher recall), and we do not want to quarantine healthy people (lower FP, high precision). To balance the recall and precision, we could use f1 score.

Example 2: crime

TP – criminal committed

FP – innocent people committed

FN – let go criminal

TN – let go innocent people

In this case, we do not want to let go the criminals (lower FN, higher recall), and we do not want to commit the innocent people (lower FP, high precision). To balance the recall and precision, we could use f1 score.

1. Eh… I do not find the questions… D: