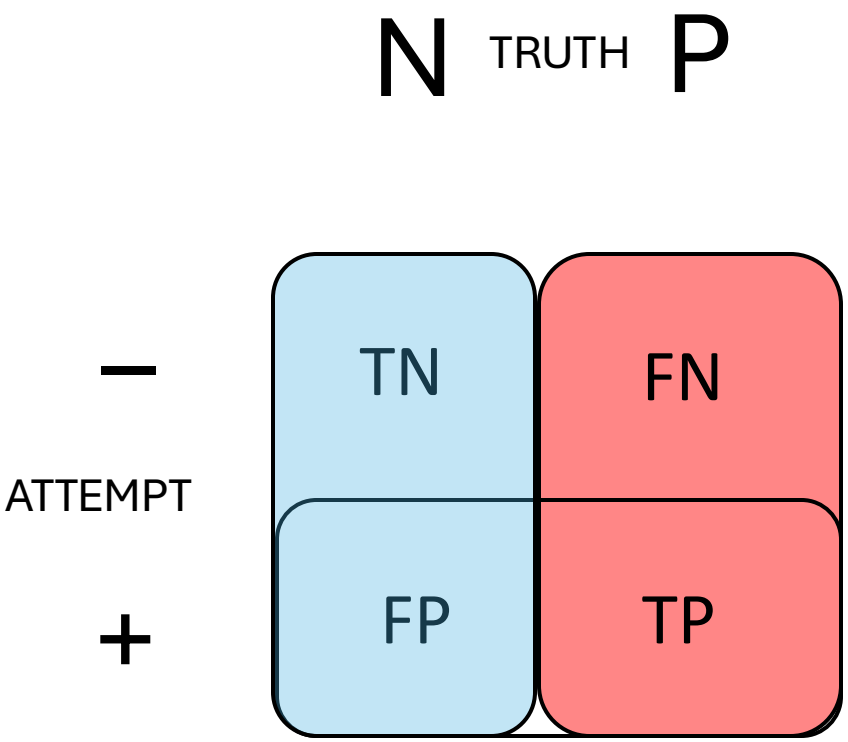
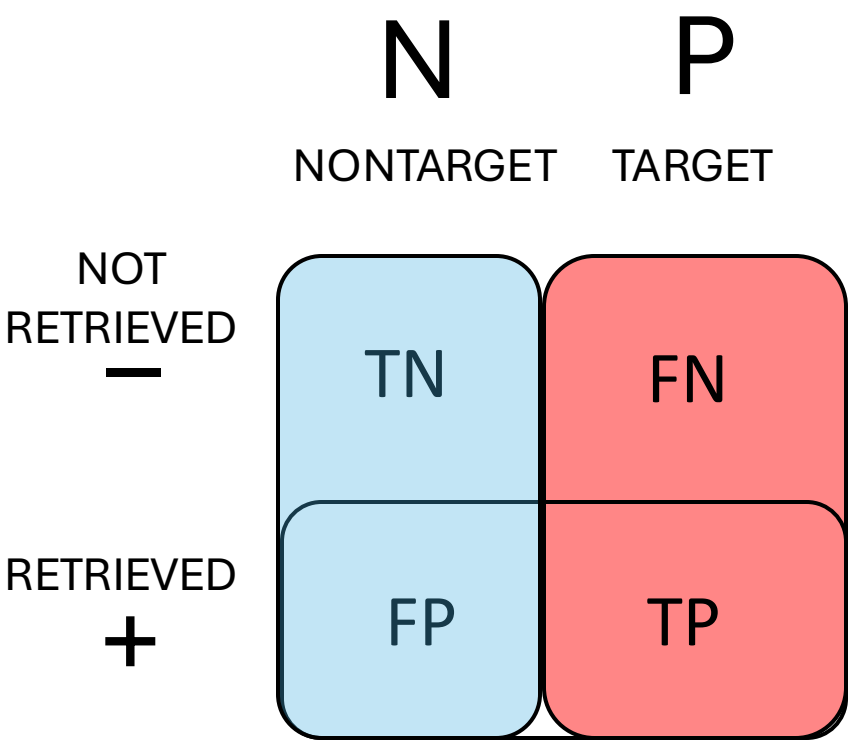
The confusion matrix



To evaluate a search/retrieval system that is not perfect…

The confusion matrix



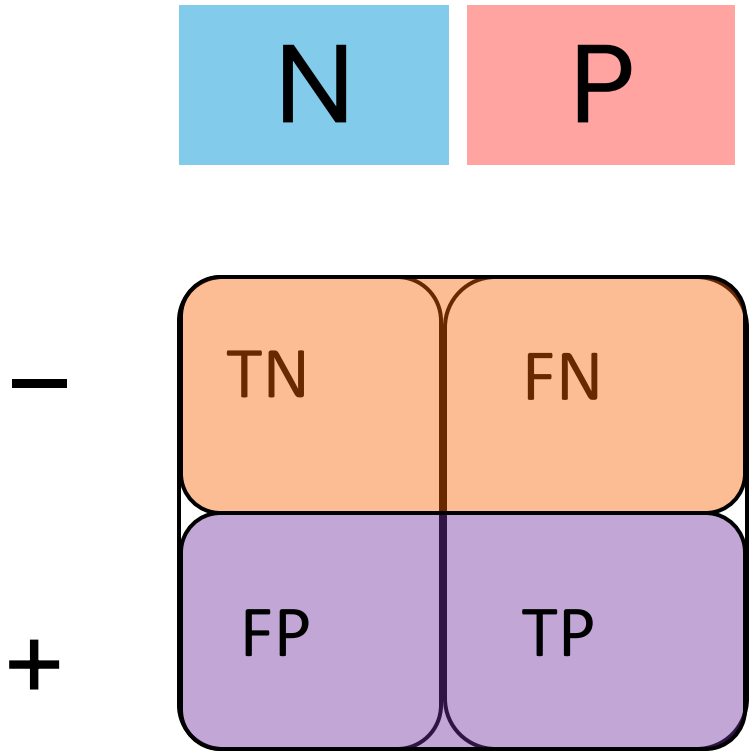
TRUTH IN DENOMINATOR

TPR = TP/P = TP / (TP + FN) = SENSITIVITY

=RECALL

TNR = TN/N = TN / (TN + FP) = SPECIFICITY

TPR and TNR are the ratios to known-truth. There are others, ratios to test/retrieval results:



TRUTH IN DENOMINATOR

TPR = TP/P = TP / (TP + FN) = SENSITIVITY

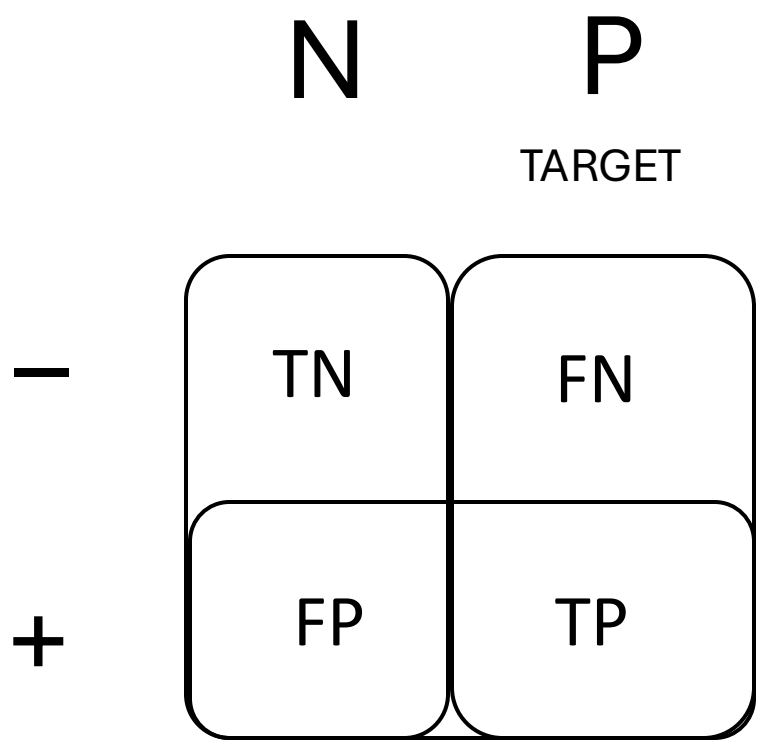
TNR = TN/N = TN / (TN + FP) = SPECIFICITY

TEST IN DENOMINATOR

NPV = TN/Ntest = TN / (TN + FN)

PPV = TP/Ptest = TP / (TP + FP) = PRECISION

How do the cells affect the search task?



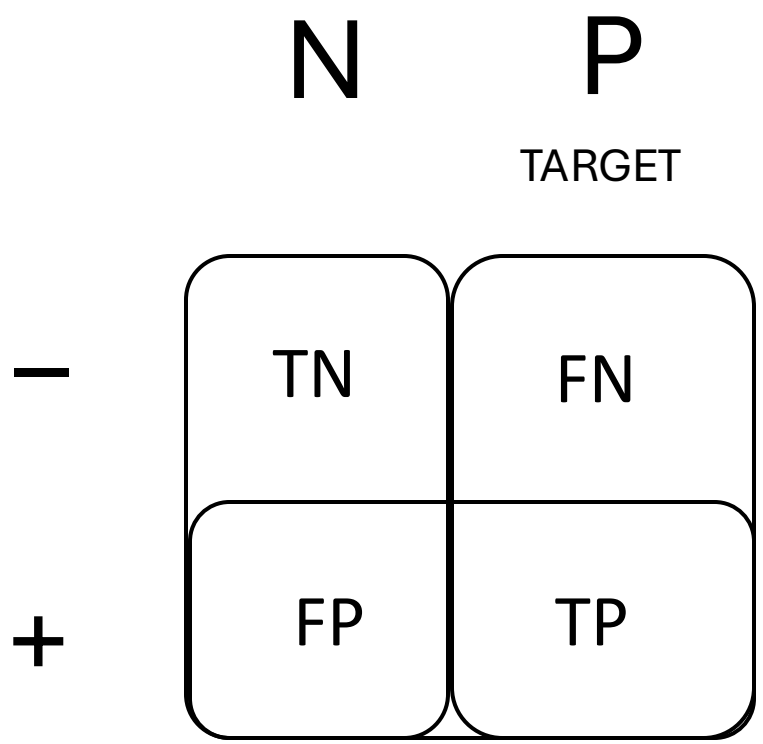
TP

FN

FP

TN

How do the cells affect the search task?



TP : This is the good stuff.

FN = imperfect sensitivity: Causes loss of signal, miss hits that should have been retrieved.

FP : retrieve from the database hits that are not responsive. Affects performance (wastes time) but sometimes this is ok.

TN: This should be the bulk of the database. We aren't usually concerned with whether we classify non-responsive hits correctly.