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Excercise-4.2

Different variants of F-measure metric are:

F1 Measure: The **F-measure** is the harmonic mean of precision and recall calculated by giving each of them a same weightage. It is useful as it allows a model to be evaluated taking both the precision and recall into account. This is helpful in describing performance and comparison of models.

F beta-Measure: The **F beta-measure** is a generalization of F-measure that adds a configuration parameter called beta. The default value of beta is generally taken as 1 which is also known as F-measure. There are several other variants which are basically originated as a special case of F beta-Measure some of which are:
F 0.5-measure, F 2-measure.

Applications:

It is often used in the field of information retrieval, document classification, and various other classification based problems. F-scores are widely used in the field of natural language processing, and processing literatures, mainly for the evaluation of named entity recognition and word segmentation.

Why there are variants: Earleer work only focussed on the F1 score and it was mostly used as a balancer for precision and recall. But later on with the proliferation of large scale search engines, performance goals chaged to emhasize more on either precision or recall depecnding on the type of problem. This is the reason for having various variants of F-measure.