

# Foundations of Information Retrieval

## Exercise 6

Exercise session: 14.12.2017  
Questions to: Markus Rokicki, rokicki@L3S.de

### 1. Search engine evaluation

1. A collection of documents contains 20 documents that are relevant for a given query. For this query, the search engine returns 8 relevant and 10 not relevant documents.
  - a. Compute **precision** and **recall** of this search result as well as the **F<sub>1</sub>-measure**.
  - b. What are the advantages of the F-measure compared to the arithmetic mean of precision and recall?
2. A collection of documents contains 10 documents that are relevant for the query q. For this query, the search engines S<sub>1</sub> and S<sub>2</sub> return the following relevant (R) and non-relevant (N) documents:

S<sub>1</sub>: NNNRR NRNRR

S<sub>2</sub>: RRNNN NNRRN

Draw a precision-recall diagram for the both search results and compare the quality of the search results based on the **interpolated precision at 25% recall**.

Recall (%)	P(S <sub>1</sub> )	P(S <sub>2</sub> )