

# Homework Assignment 1

Please note that even though the homework assignments are optional, you're still highly encouraged to answer them, as they will help you prepare for your final exam. Solutions can be sent by email at [ghammad@ifis.cs.tu-bs.de](mailto:ghammad@ifis.cs.tu-bs.de) or can be given back to us at the lecture.

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## **Exercise 1.1**

What is the difference between "information retrieval" and "data retrieval"?

## **Exercise 1.2**

Explain the differences between Information Retrieval and Web Search.

## **Exercise 1.3**

What is an "information need" and how it connects to "relevance" and "query" in information retrieval?

## **Exercise 1.4**

Explain in your own words how an IR system works.

## **Exercise 1.5**

What is the difference between the bag of words model and the set of words model?

## **Exercise 1.6**

In what way a bag of word model can make possible a matching between a query and a document collection?

## **Exercise 1.7**

What is an inverted index and what's the motivation for using it?

## **Exercise 1.8**

Why the size of the returned set of a Boolean Query is difficult to control?

## **Exercise 1.9**

Why is it more convenient to convert a query into a disjunctive normal form rather than conjunctive normal form?

## **Exercise 1.10**

Why in the Boolean Retrieval Model many relevant documents are not found after performing a query?