↑ Please write **clearly** and use capitalized BLOCK LETTERS ↑

Chair of Algorithms
and Data Structures
Prof. Dr. Hannah Bast
Sebastian Walter

**Information Retrieval /
Databases and Information Systems
WS 2023/2024**

`https://ad-wiki.informatik.uni-freiburg.de/teaching`

**UNI
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Retake exam

Monday, 9th of September 2024, 14:00 - 16:30 h, in HS 26 and HS 36 in building 101

There are *five* tasks. Each task is worth 20 points, that is, you can reach a maximum of 100 points. You need 50 points to pass the exam.

You have 2 hours 30 minutes of time overall. This is 20 minutes plus 10 minutes buffer per task.

You are allowed to use *one* DIN A4 sheet of paper with any contents of your choice related to the lectures and the exercises. You can write on the front and on the back and it can be handwritten or a printout, but it must be from yourself, not from someone else. You are not allowed to use any computing devices or mobile phones, in particular nothing with which you can communicate with others or connect to the Internet or parallel universes.

You may write down your solutions in either English or German.

Important: For the programming tasks you should use Python. Each programming task specifies a maximum number of lines you are allowed to write. For all other tasks, do not simply write down the final result, but it should also be clear how you derived it.

Multiple-choice tasks: Some of the tasks consist of a set of questions, to each of which the answer is either *true* or *false*. A correct answer gives plus 2 points, a wrong answer gives minus 2 points, and no answer gives 0 points. So if you don't know the answer, do not guess but write *no answer* or simply nothing. No explanations are needed. Altogether, you cannot get less than 0 points for such tasks.

How and what to hand in: Please write, in the blue box at the top, your name and your matriculation number. Please write your solutions on the exam: use the front side of the sheet on which the question is printed and then the back side of the *previous* sheet. If you wish to submit additional paper (which should be the exception), write your name and matriculation number on every additional sheet.

Good luck!

A1	A2	A3	A4	A5	Points	Grade