

Lab Class IR:I

As the teaching assistant will not be present, please complete the exercise sheet at home. Try to solve the exercises independently before checking your answers using the lecture notes.

Exercise 1 : Database vs. Search Engine

What are the main differences between a database system and an information retrieval (IR) system?

You can find the answer in the lecture notes [IR:I-17, IR:I-60–61].

Exercise 2 : RAG

You can find the answer in the lecture notes [IR:I-28–31].

- (a) What does RAG stand for?
- (b) What are the two main steps of RAG?
- (c) What is the goal of RAG from a user's perspective?
- (d) Name at least two risks or limitations of RAG.

Exercise 3 : Search Engines

Map search engines to their purpose.

You can find the answer in the lecture notes [IR:I].

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| (a) ChatNoir | (1) Search engine for news articles |
| (b) Bing | (2) Search engine for arguments and their stance |
| (c) Google News | (3) Search engine for phrases and their usage frequency |
| (d) args.me | (4) General-purpose web search engine |
| (e) Netspeak | (5) Publicly available research search engine at web scale |

Write down the matching pairs (e.g., a–3).

Exercise 4 : Definitions

You can find the answer in the lecture notes [IR:I-52–64].

Define the following terms in the context of information retrieval:

- (a) Information System
- (b) Information Need
- (c) Relevance
- (d) Information Retrieval