



## Exercise Sheet 08

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Please upload your solutions to WueCampus as a scanned document (image format or pdf), a PDF document, and/or as a jupyter notebook.

1. **Generative AI** In this task, we will explore the capabilities and limitations of generative AI, specifically using ChatGPT. Note: ChatGPT should not use the web for real-time searches—only use the knowledge it has been trained on up until its knowledge cutoff.
  - (a) **Trick Questions** Explore how ChatGPT answers trick questions.  
Example: *One rabbit saw 6 elephants while going towards River. Every elephant saw 2 monkeys are going towards river. Every monkey holds one tortoise in their hands. How many animals are going towards the river?*  
Find two more trick questions, where ChatGPT fails to answer them correctly.
  - (b) **Hallucination** Explore how ChatGPT can sometimes produce incorrect or fabricated information, often referred to as hallucination. This can occur when providing fake information or sources. Give ChatGPT a fictional or fabricated film title, book, or article source. For example:  
*Please summarize the film The Quantum Ghost directed by John Doe in 2021*  
Or:  
*Can you explain the key findings from the study Artificial Intelligence in Ancient Rome by Dr. Emily Blackwell?*
  - (c) **Image Generation** Ask ChatGPT to generate an image that includes both visual elements and text. Set your creativity free :)
  - (d) **Cesar Cipher** Encrypt the sentence *My name is \*your name\** with the cesar cipher with shift key 1. Then ask ChatGPT to Encrypt the sentence with the same key.
  - (e) Can you find more prompts that ChatGPT fails to answer correctly?