Universität Konstanz

Introduction to Computing for the Social Sciences
Exercise Sheet for Session 04

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In-class exercise: Debugging

Download the files twenty_questions.py and questions.json from the following folder on the github repository:

https://github.com/dgarcia-eu/ICSS/tree/main/Exercises/Exercises_Session04_files

twenty_questions.py is a program for the twenty questions game for animals. It reads a tree of questions to ask from questions.json and asks yes/no questions to the user to try to find out what animal the user has chosen.

Your task is to find the errors in the python code and get the program to work. You can inspect error messages and use print statements to find the error. Make tests thinking about an animal to see if the program guesses it right or behaves in ways you don't expect.

Optional: use a debugger to find errors, for example the Python debugger add-on in VSCode. You can find more information here: https://code.visualstudio.com/docs/python/debugging

Pen-and-paper exercise: Computational problem-solving

You are working for a local statistics office. Your town is divided into separate blocks of houses. You want to investigate patterns of population change.
You got a list with entries that contain:

- Registration-Id
- Date (*number of days counted from a given reference date)*
- Block-Id

Your task is to find out whether registrations in the same blocks are related. Write the pseudocode of an algorithm that exhaustively compares the entries for all **N** registrations covered by the dataset and returns for **every** individual registration the **total number** of registrations in the **same block** up to **30 days** later.