CMPUT 174 Lab 9

Theme of this lab: Our favourite TV shows!

We will use JSON files to search for our favourite TV shows in the top 100!

Learning Outcomes

- Use dictionaries and nested data structures to operate data
- Employ user-defined functions to decompose computational problems
- Identify appropriate parameters and return values for user-defined functions
- Use JSON files to access structured data
- Apply evolutionary prototyping to design programs step by step

Software Quality Requirements

For this lab, you must apply **all** software quality requirements, **except** Section 7 (User-defined Classes).

Tasks

The following tasks are **versions** of the same problem. Please do the tasks in order, starting with the first one.

1. Version 1: Searching
2. Version 2: Formatting
3. Version 3: Cast
4. Version 4: Actors

Reflection Questions

Once you're done coding, use these questions to think about your code. It's an essential part of learning because we can never write good code if we don't **think** about the problem and consider different ways of solving it.

When you demo your lab, a TA may ask some of these questions.

1. Think of what differentiates JSON from a dictionary, what similarities do they share?

2. Can you think of the advantages of working with JSON instead of dictionaries?

4. Why do you think we sort information in nested data structures?

5. The `format_actor_info()` function can be written in one line. Can you do it?

Resources

- You will need the JSON files containing data about TV shows. Download it here:
  - tvshows.json
  - cast.zip (unzip to the folder containing your program)
- In this lab, we will be using JSON files to work with data. You can find the Python JSON documentation here.

Marking

The are no part marks, no in-between marks

4/4	Your code clearly meets all requirements of **Version 4** and all software quality requirements. You clearly understand your code and your answers are correct.
3/4	One of the following: a) Your code meets all requirements of **Version 3** and all related software quality requirements. You clearly understand your code and your answers are correct. b) Your code meets most **Version 4** requirements and most software quality requirements; it runs and does what is expected. However, some minor requirements are missing, or some details in your answers are missing or incorrect.
2/4	One of the following: a) Your code meets all requirements of **Version 2** and all related software quality requirements. You clearly understand your code and your answers are correct. b) Your code meets most **Version 3** requirements and most software quality requirements; it runs and does what is expected. However, some minor requirements are missing, or some details in your answers are missing or incorrect.
1/4	One of the following: a) Your code meets all requirements of **Version 1** and all related software quality requirements. You clearly understand your code and your answers are correct. b) Your code meets most **Version 2** requirements and most software quality requirements; it runs and does what is expected. However, some minor requirements are missing, or some details in your answers are missing or incorrect. c) You put effort into your lab assignment, but your code doesn't run at all or runs with major problems. Missing major requirements, or your answers are mainly incorrect.
0/4	One of the following: a) Incomplete, or very insufficient code, or no submission. b) Code submitted but no show, or no answers, or irrelevant answers.