TV Show Explorer Version 1: Searching

In this lab, you will develop a real TV show explorer.

Let's start with the first task: searching for a show.

What to do

Before you start writing code, download the JSON file containing the data about TV shows: tvshows.json.

Now, import the JSON module to get access to its methods.

Then, implement the `load_json()` function. It will take a file name string as an argument, then load and return the contents as a dictionary that contains data about the top 100 shows.

The function will:

a) Open the file and load the data from the JSON file.
b) Return the data after loading it.

Next, you will need to implement the `find_show()` function. It takes in a query as a string and a dictionary with the data of the top 100 shows.

The function will:

a) Search for the **first** result (only one) in the dictionary that matches the given query from the user.
b) Return the show name that matches.

All functions defined in the template **must be present and implemented** in your code (you may **not** omit functions or change their definition). You **may** add extra functions if needed.

The complete code of the `main()` function is provided, you don't need to change it.

```
"""
This version of the program:
1. Loads the data from a JSON file
2. Searches for a TV show in the data
```

```python
    3. Prints the name of the show if found
    """

import json

def load_json(filename) -> dict:
    """
    Load JSON from a file
    """
    # TODO: Implement the function

def find_show(query: str, shows: dict) -> str:
    """
    Search for TV shows in the shows dictionary
    Return the name of the first (only one) result based on the query
    If the show is not found, return None
    """
    # TODO: Implement the function

def main():
    """
    Main function
    """
    shows = load_json("tvshows.json")
    query = input("Search for a TV show: ")
    show_name = find_show(query, shows)
    if show_name:
        print(f"Found: {show_name}")
    else:
        print("Can't find this TV show in the Top 100!")

if __name__ == '__main__':
    main()
```

Hints

- Your best friend is your web browser. You can use it to open the given JSON file and understand its structure.
- Google what kinds of methods the json module has!
  - `json.load` method can take in a file object and return a Python dictionary
  - `json.loads` method can take in JSON formatted string and return a Python dictionary.
- Review the methods you can use to access data within dictionaries.

Program name

Save your program as `shows1.py`.

Demo

Testing

To make sure your program works correctly, you should test it.

- Run your program with `python shows1.py`. Type `friends`, then press Enter. The output of your program must resemble the example output below:

```
Found: Friends
```

- Run your program with `python shows1.py`. Type `qwertyui`, then press Enter. Your program should print:

```
Can't find this TV show in the Top 100!
```

Submitting

Submit `shows1.py` via eClass.

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