import json

from colorama import Fore, init

init()

BLUE, GREEN, RED, YELLOW, RESET = (

    Fore.BLUE,

    Fore.GREEN,

    Fore.RED,

    Fore.YELLOW,

    Fore.RESET,

)

class JSONExplorer:

    def \_\_init\_\_(*self*, *data*):

*self*.data = *data*

    def find\_all\_values(*self*, *key*):

        values = []

        def helper(*data*, *key*, *path*):

            for k, v in *data*.items():

                new\_path = *path* + [k]

                if k == *key*:

                    values.append(

                        {"location": *self*.pretty\_location(new\_path), "key\_value": v}

                    )

                elif isinstance(v, dict):

                    helper(v, *key*, new\_path)

                elif isinstance(v, list):

                    for i, item in enumerate(v):

                        if isinstance(item, dict):

                            helper(item, *key*, new\_path + [i])

        helper(*self*.data, *key*, [])

        return values

    def pretty\_location(*self*, *location*):

        pretty\_location = ""

        for index, part in enumerate(*location*):

            if isinstance(part, str):

                pretty\_location += f"{part}"

                if (index < len(*location*) - 1) and (

                    isinstance(*location*[index + 1], int)

                ):

                    pretty\_location += f"[{*location*[index + 1]}]"

                pretty\_location += " -> " if part != *location*[-1] else ""

        return pretty\_location

    def pretty\_print(*self*):

        print(json.dumps(*self*.data, *indent*=2))

    def find\_all\_values\_UI(*self*, *key*: str):

        values = *self*.find\_all\_values(*key*)

        if values:

            print(f"{GREEN}Found {len(values)} values:{BLUE}")

            for value in values:

                print(f"{'-' \* 20}\nLocation: {value['location']}")

                print(f"Value: {value['key\_value']}")

        else:

            print(f"No values found for the key '{*key*}'.")

if \_\_name\_\_ == "\_\_main\_\_":

    print(f"{YELLOW}{'\*' \* 13}\nJSON Explorer\n{'\*' \* 13}")

    file\_name = input(

        f"{BLUE}Enter the name of the json file (including the extension): {GREEN}"

    )

    try:

        with open(f"{\_\_file\_\_.replace('\_\_init\_\_.py', '')}{file\_name}", "r") as f:

            data = json.load(f)

    except FileNotFoundError:

        print(

            f"{RED}Could not find the file. The file needs to be in this script's directory."

        )

        exit()

    else:

        print(f"{YELLOW}'{file\_name}' loaded successfully.")

    print(f"{BLUE}What would you like to do?")

    menu\_options = {

        "1": "Find all values of a key",

        "2": "Pretty-print the JSON data",

        "3": "Exit the program",

    }

    for key, value in menu\_options.items():

        print(f"{GREEN}[{key}] {BLUE}{value}")

    main\_menu\_choice = input(f"{BLUE}Enter your choice: {GREEN}")

    while main\_menu\_choice not in menu\_options.keys():

        print("Invalid choice. Please try again.")

        main\_menu\_choice = input(f"{BLUE}Enter your choice: {GREEN}")

    if main\_menu\_choice == "1":

        key = input(f"{BLUE}Enter the key: {GREEN}")

        JSONExplorer(data).find\_all\_values\_UI(key)

    elif main\_menu\_choice == "2":

        explorer = JSONExplorer(data)

        explorer.pretty\_print()

    else:

        print(f"{YELLOW}Goodbye!")

        exit()