Assignment 1 – Weather Data Analyzer

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02/01/2024

CCCS-425-774 – Web Services

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Application Overview

Java Version: 17

Dependency management: Maven

Dependencies:

- JUnit
- Jackson
- JSONPath

Build

Run `mvn pacakge` to build the application. Results can be found in the `target` directory.

Tests

Run `mvn test` to run the test suite.

Run

Run `mvn exec:java` to run the application.

How the Application Works

A weather-data.json file contains all the weather data that can be analyzed using JSON Query paths.

This file is read and mapped to a WeatherData object. If an error occurs while reading the file, the error is handled.

The application then prompts the user to enter a JSON Path query. If the query is invalid, a message indicating that the query is invalid is shown and the user is asked to enter a query again.

When the query is valid, the results are displayed and the user is asked to enter “y” or “n” to try again.

Application Output Examples

$.weather-data

```
[INFO] --- exec-maven-plugin:3.4.1:java (default-cli) @ weather-app ---
Enter a JSONPath query: $.weather-data
{New York=[{"date":"2023-10-01","temperature":{"high":75,"low":60},"precipitation":0.1,"wind":{"speed":10,"direction":"NW"}},{"date":"2023-10-02",
"temperature":{"high":70,"low":55},"precipitation":0.0,"wind":{"speed":8,"direction":"N"}},{"date":"2023-10-03","temperature":{"high":68,"low":50}
,"precipitation":0.2,"wind":{"speed":12,"direction":"NE"}}]}
Do you want to try again? (y/n):
```

$.weather-data.[“New York"]

```
Do you want to try again? (y/n): y
Enter a JSONPath query: $.weather-data["New York"]
{date=2023-10-01, temperature={high=75, low=60}, precipitation=0.1, wind={speed=10, direction=NW}}
{date=2023-10-02, temperature={high=70, low=55}, precipitation=0.0, wind={speed=8, direction=N}}
{date=2023-10-03, temperature={high=68, low=50}, precipitation=0.2, wind={speed=12, direction=NE}}
Do you want to try again? (y/n):
```

$.['weather-data']['New York'][*].precipitation

```
Enter a JSONPath query: $.['weather-data']['New York'][*].precipitation
0.1
0.0
0.2
Do you want to try again? (y/n):
```

$.['weather-data']['New York'][*].wind.speed

```
Enter a JSONPath query: $.['weather-data']['New York'][*].wind.speed
10
8
12
Do you want to try again? (y/n):
```