MIB Automation – ITLB354

- Examination -

Spring 2021/22 – Version A Student's Name _____

Time allowed: 12 hours

Copy your code to this document, or (preferably) create a zip file containing the source files and this document, then upload it to Moodle for submission.

Planets API

Create a HTTP API using Flask that returns JSON data about planets. Planets can be looked up by name.

Endpoints

`GET /planets/<name>`

Returns the volume and the mass of the planet *in human readable format*, and the number of its moons. It should return 404 Not Found status code if such planet does not exist.

Example request

```
curl http://localhost:5000/planets/Neptune
```

Example response

```
{
      "mass": "1.02413 * 10^26 kg",
      "volume": "6.254 * 10^13 km3",
      "moons": 14
}
```

`GET /usage`

Renders a *HTML page* that shows how many times each planet has been queried since the server started running.

Example output

- Earth: looked up 3 times
- Jupiter: looked up 2 times
- Neptune: looked up 5 times

In the implementation of the endpoints you should use other 3rd party APIs to retrieve data. Use the following API: https://api.le-systeme-solaire.net/en/

- Good requests and parsing (20 points)
- Handling the endpoint parameters and correct response values (10 points)
- Server side rendering (10 points)
- Optimal solution and error handling (10 points)
- Clean code (10 points)

Automation system specification

Write down the system specification for **one of** the following automation projects:

1.
   - A pipeline that runs every Sunday
   - Browses recommended movie titles on IMDB and saves the ratings and descriptions of 100 movies into a CSV file
   - Creates a presentation in the cloud with the descriptions of the 3 top rated movies
   - Emails the presentation to a predefined email address
   - Deletes old presentations and data sheets once a week
2.
   - A pipeline that runs once every two hours
   - Checks the NASDAQ 100 stock exchange index
   - Adds the current index value to an existing spreadsheet in the cloud
   - Generates a line chart of the most recent 100 index point values every morning
   - If the index gets more than 10% above or below the start index, it sends notification emails to predefined recipients

You *don't have to write code*, just the technical system specification. It should mention all the necessary tools (libraries, services, APIs) and configuration of the system.

- Mentioning the right tools (10 points)
- Correct pipeline of tools (10 points)
- Proper system configuration (10 points)
- Optimal solution and error scenarios (10 points)

OVERVIEW OF MARKS AVAILABLE

Temperature Info API	Automation system specification	TOTAL
60 points	40 points	100 points

Overall feedback comments: