

Assignment 3

1. Identify and fix all the errors in the JSON data from a student management system.

Ans.)

```
{
  "students": [
    {
      "id": 101,
      "name": "Sarah Johnson",
      "courses": ["CS101", "MATH200", "ENG150"],
      "gpa": 3.85,
      "active": true,
      "graduation_date": null
    },
    {
      "id": 102 ,
      "name": "Alex Chen",
      "courses": ["CS101", "CS102", "STAT101"],
      "gpa": 3.92,
      "active": true,
      "advisor": null,
      "notes": "Excellent student with strong analytical skills"
    } ,
    {
      "id": "103",
      "name": "Maria Rodriguez",
      "courses": [],
      "gpa": 3.67,
      "active": false,
      "special_programs": ["honors", "research"]
    }
  ],
  "last_updated": "2024-09-15T10:30:00Z" ,
  "total_students": 3
}
```

2. Your web application currently uses this TOML configuration file. Analyze the configuration and answer the following questions:

a. How many feature flags are currently defined, and which ones are active?

Ans: There are 2 feature flags defined, "new_ui" and "analytics", and only "new_ui" is active.

b. What happens when the log file reaches 100MB?

Ans: When the log file reaches 100MB, it gets rotated which might mean to create a new log file.

c. If you wanted to make the server accessible only from localhost, what should you change?

Ans: To make the server accessible only from localhost, the value of "host" key in "server" table has to be changed from "0.0.0.0" to "127.0.0.1".

d. Calculate the total number of seconds that cached items will remain valid.

Ans: The total number of seconds that cached items will remain valid is 3600, which is specified in "cache" table.

e. Explain the difference between the [feature_flags] and [[feature_flags]] syntax.

Ans: [feature_flags] defines a single table, whereas [[feature_flags]] defines an array of tables. The first [[feature_flags]] defines an array and first table element and every other [[feature_flags]] creates a new table element in the array in that particular order.