1) Identify and fix all the errors in the JSON data from a student management system - 3 Marks
json { "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": undefined, "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 }

Ans:

Identify errors

- **Missing comma after "id": 102**
- **Missing comma between "CS101" and "CS102"**
- **Boolean values must be lowercase in JSON.**
- **undefined is invalid in JSON so should be Null**
- **Unclosed string for notes**
- **Missing comma between student objects**
- **ID type inconsistency**
- **Trailing comma after last property in Maria's object**
- **Missing comma between top-level keys**

So corrected version is

{

** "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,**

```json
      "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
}
```

Q2)

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

Ans: **Two feature flags are currently defined 1) new_ui 2) analytics. Only new_ui is active.**

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

Ans: **when the log files reaches 100MB system will rotate the 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 I change host = "127.0.0.1"**

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

Ans: **Since ttl=3600 so the total number of seconds that cached items will remain valid is 3600 sec**

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

Ans:

- [[feature_flags]] means we can define **multiple feature flag entries**, each with name, enabled, and rollout_percentage.
- If it were [feature_flags], you could only define **one feature flag**.