

Pawan Tatyaso Pawar

Roll No- 71

Assignment No-02

```
import re

def extract_critical_errors(log_data: str) -> list[tuple]:
    # Regex pattern to capture the necessary log information
    pattern = r'\[(\d{4}-\d{2}-\d{2} \d{2}:\d{2}:\d{2})\] \[ERROR\] \[(\w+)\] (.*(?:\d{1,3}\.){3}\d{1,3}.*0x[0-9A-Fa-f]{8}.*)'

    # Use re.findall() to find all matches that conform to the pattern
    matches = re.findall(pattern, log_data)

    # Return the matches as a list of tuples
    return matches

def get_user_input():
    # Taking 4 inputs from the user
    LOG_1 = input("Enter the first LOG entry: ")
    LOG_2 = input("Enter the second LOG entry: ")
    LOG_3 = input("Enter the third LOG entry: ")
    LOG_4 = input("Enter the fourth LOG entry: ")

    # Combine the inputs to simulate the log data
    log_data = f"{LOG_1}\n{LOG_2}\n{LOG_3}\n{LOG_4}"

    # Display the inputs on separate lines
    print("\nInputs:")
    print(LOG_1)
    print(LOG_2)
    print(LOG_3)
    print(LOG_4)

    # Call the extract_critical_errors function to process the log data
    result = extract_critical_errors(log_data)

    # Display the result (output)
    print("\nOutput:")
    for item in result:
        print(item)
```

```
# Call the function
```

```
get_user_input()
```

```
Enter the first LOG entry: [2025-02-10 14:23:01] [INFO] [Auth_Module]
User login successful.
```

```
Enter the second LOG entry: [2025-02-10 15:45:32] [ERROR] [Net_Module]
Connection timeout from 192.168.1.10. Error Code: 0xAB12CD34
```

```
Enter the third LOG entry: [2025-02-10 16:01:10] [WARN] [Disk_Module]
Low disk space warning.
```

```
Enter the fourth LOG entry: [2025-02-10 17:12:05] [ERROR]
[Security_Module] Unauthorized access detected from 10.0.0.5. Error
Code: 0xDEADBEEF
```

```
Inputs:
```

```
[2025-02-10 14:23:01] [INFO] [Auth_Module] User login successful.
```

```
[2025-02-10 15:45:32] [ERROR] [Net_Module] Connection timeout from
192.168.1.10. Error Code: 0xAB12CD34
```

```
[2025-02-10 16:01:10] [WARN] [Disk_Module] Low disk space warning.
```

```
[2025-02-10 17:12:05] [ERROR] [Security_Module] Unauthorized access
detected from 10.0.0.5. Error Code: 0xDEADBEEF
```

```
Output:
```

```
('2025-02-10 15:45:32', 'Net_Module', 'Connection timeout from
192.168.1.10. Error Code: 0xAB12CD34')
```

```
('2025-02-10 17:12:05', 'Security_Module', 'Unauthorized access
detected from 10.0.0.5. Error Code: 0xDEADBEEF')
```