Assignment : 2

Sankalp Kailsh Ghodeswar   Mar 2, 2025

```python
[1]: 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)
```

```python
     # Call the function
```

Assignment : 2

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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')

[ ]: