66_Lavanya Kini

Assignment 02

```python
#Code:
import re
from datetime import datetime

def extract_critical_errors(log_data: str) -> list[tuple]:
    pattern = r"^\[(\d{4}-\d{2}-\d{2} \d{2}:\d{2}:\d{2})\] \[ERROR\] \
[(\w+)\] (.*?\b((25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?)\.){3}(25[0-5]|
2[0-4][0-9]|[01]?[0-9][0-9]?)\b.*?\b0x[0-9A-Fa-f]{8}\b)"
    return [(m.group(1), m.group(2), m.group(3)) for m in
re.finditer(pattern, log_data, re.MULTILINE)]

current_timestamp = datetime.now().strftime('%Y-%m-%d %H:%M:%S')

log_data = f'''
[{current_timestamp}] [INFO] [Auth_Module] User login successful.
[{current_timestamp}] [ERROR] [Net_Module] Connection timeout from
192.168.1.10. Error Code: 0xAB12CD34
[{current_timestamp}] [WARN] [Disk_Module] Low disk space warning.
[{current_timestamp}] [ERROR] [Security_Module] Unauthorized access
detected from 10.0.0.5. Error Code: 0xDEADBEEF
'''

print(extract_critical_errors(log_data))

#Output:

[('2025-03-09 11:41:39', 'Net_Module', 'Connection timeout from
192.168.1.10. Error Code: 0xAB12CD34'), ('2025-03-09 11:41:39',
'Security_Module', 'Unauthorized access detected from 10.0.0.5. Error
Code: 0xDEADBEEF')]
```