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```
import re
```

```
def extract_critical_errors(log_data: str) -> list[tuple]: # Regex pattern to match the required log entries
```

```
pattern = r"[(\d{4}-\d{2}-\d{2} \d{2}:\d{2}:\d{2})\ ] \[ERROR\] \ [(\w+)\]"  
(.*?(?:\d{1,3}\.\d{1,3}\.\d{1,3}\.\d{1,3}).*?(?:0x[A-Fa-f0-9] {8}))"
```

```
# Find all matches
```

```
matches = re.findall(pattern, log_data)
```

```
# Return as a list of tuples
```

```
return matches
```

```
# Example log data
```

```
log_data = """[2025-03-10 10:15:30] [ERROR] [Firewall_Module] Intrusion  
detected from 172.16.5.8. Error Code: 0xFACEB00C [2025-03-10 11:25:42]  
[INFO] [Auth_Module] User logged out successfully.  
[2025-03-10 12:10:15] [ERROR] [Network_Module] Packet loss from  
192.168.0.250. Error Code: 0xBADF00D1  
[2025-03-10 13:05:20] [WARN] [System_Module] CPU usage is high. [2025-03-10  
14:55:50] [ERROR] [Security_Module] Unauthorized SSH access from 10.20.30.40.  
Error Code: 0xCAFEBAFE  
[2025-03-10 15:30:10] [DEBUG] [Cache_Module] Cache cleared  
successfully."""
```

```
# Running the function
```

```
output = extract_critical_errors(log_data)
```

```
print(output)
```

Ouput:

```
[('2025-03-10 10:15:30', 'Firewall_Module', 'Intrusion detected from 172.16.5.8. Error Code:  
0xFACEB00C'), ('2025-03-10 12:10:15', 'Network_Module', 'Packet loss from 192.168.0.250.  
Error Code: 0xBADF00D1'), ('2025-03-10 14:55:50', 'Security_Module', 'Unauthorized SSH  
access from 10.20.30.40. Error Code: 0xCAFEBAFE')]
```