

COS40003 – Concurrent Programming

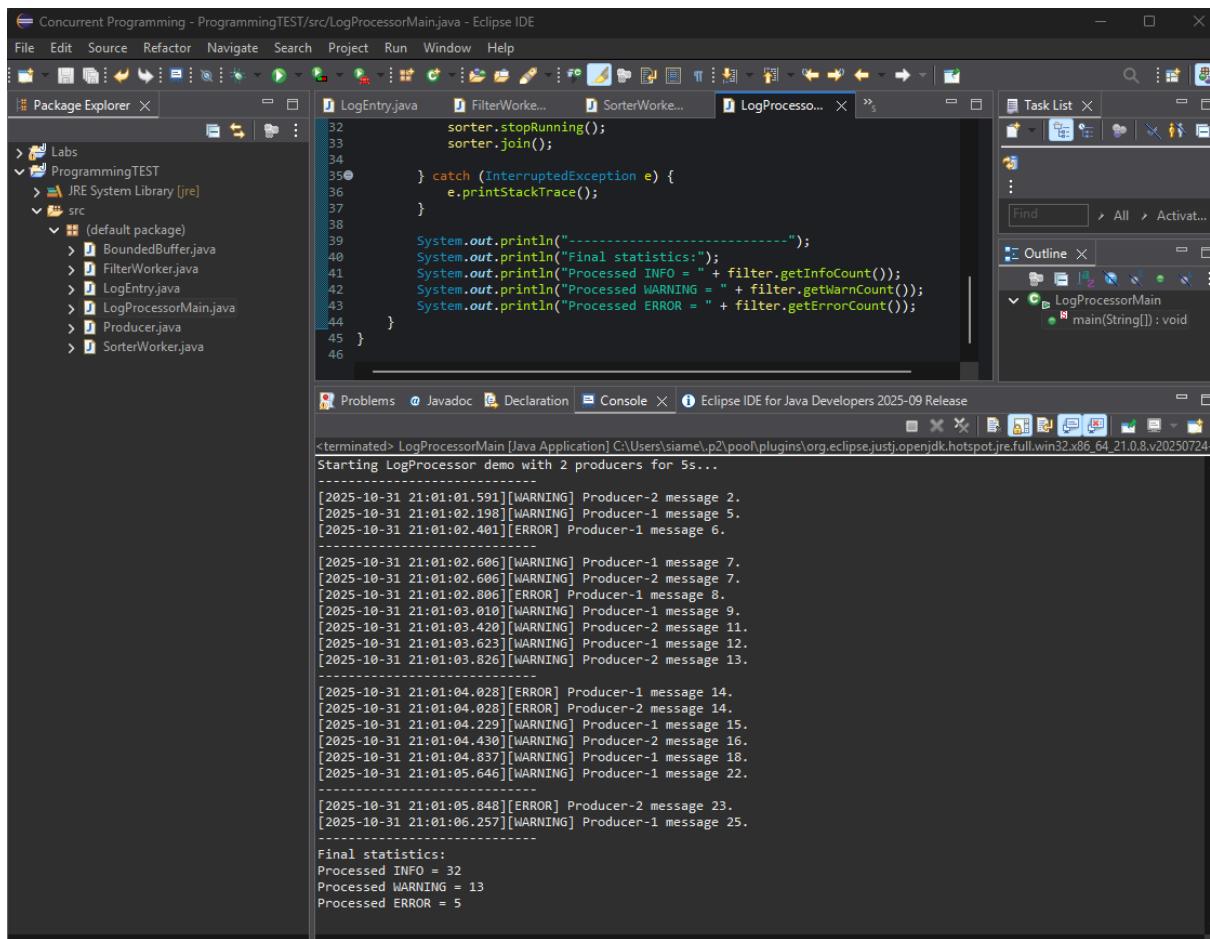
Programming Test, Semester 2, 2025

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Here is the output of the code correctly running displaying log entries generated by two producer threads, where only **WARNING** and **ERROR** messages are shown after being filtered and sorted chronologically.

The **INFO** messages are counted internally (totalling 32) but not displayed, as they are filtered out by the system's log processor.



The screenshot shows the Eclipse IDE interface with the following details:

- File Explorer (Package Explorer):** Shows the project structure with packages `Labs`, `ProgrammingTEST`, and `src`. Under `src`, there are files: `BoundedBuffer.java`, `FilterWorker.java`, `LogEntry.java`, `LogProcessorMain.java`, `Producer.java`, and `SorterWorker.java`.
- Code Editor (LogProcessorMain.java):** Displays the Java code for the `LogProcessorMain` class, which includes logic for sorting and filtering log entries.
- Console Output:** Shows the execution of the application. It starts with "Starting LogProcessor demo with 2 producers for 5s...". It then lists log entries from both producer threads, filtered to show only **WARNING** and **ERROR** levels. The entries are timestamped and show messages being processed by both threads. At the end, it prints "Final statistics:" followed by the counts of processed INFO, WARNING, and ERROR messages.

```
32         sorter.stopRunning();
33         sorter.join();
34
35     } catch (InterruptedException e) {
36         e.printStackTrace();
37     }
38
39     System.out.println("-----");
40     System.out.println("Final statistics:");
41     System.out.println("Processed INFO = " + filter.getInfoCount());
42     System.out.println("Processed WARNING = " + filter.getWarnCount());
43     System.out.println("Processed ERROR = " + filter.getErrorCount());
44 }
45 }
```

```
<terminated> LogProcessorMain [Java Application] C:\Users\siame\p2\pool\plugins\org.eclipse.justj.hotspot.jre.full.win32.x86_64_21.0.8.v20250724-1144
Starting LogProcessor demo with 2 producers for 5s...
-----
[2025-10-31 21:01:01.591][WARNING] Producer-2 message 2.
[2025-10-31 21:01:02.198][WARNING] Producer-1 message 5.
[2025-10-31 21:01:02.401][ERROR] Producer-1 message 6.
-----
[2025-10-31 21:01:02.606][WARNING] Producer-1 message 7.
[2025-10-31 21:01:02.606][WARNING] Producer-2 message 7.
[2025-10-31 21:01:02.806][ERROR] Producer-1 message 8.
[2025-10-31 21:01:03.010][WARNING] Producer-1 message 9.
[2025-10-31 21:01:03.420][WARNING] Producer-2 message 11.
[2025-10-31 21:01:03.623][WARNING] Producer-1 message 12.
[2025-10-31 21:01:03.826][WARNING] Producer-2 message 13.
-----
[2025-10-31 21:01:04.028][ERROR] Producer-1 message 14.
[2025-10-31 21:01:04.028][ERROR] Producer-2 message 14.
[2025-10-31 21:01:04.229][WARNING] Producer-1 message 15.
[2025-10-31 21:01:04.430][WARNING] Producer-2 message 16.
[2025-10-31 21:01:04.837][WARNING] Producer-1 message 18.
[2025-10-31 21:01:05.646][WARNING] Producer-1 message 22.
-----
[2025-10-31 21:01:05.848][ERROR] Producer-2 message 23.
[2025-10-31 21:01:06.257][WARNING] Producer-1 message 25.
-----
Final statistics:
Processed INFO = 32
Processed WARNING = 13
Processed ERROR = 5
```