Lambdas, Streams and Events

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See csse2002[1] for course logistics.

> **Lambdas are examinable; event-driven programming and GUIs are not** — confirmed in 2026-05-28-course-summary-and-exam-preparation[2]. The two halves carry very different revision weight.

Topics

1. **Lambdas in Java** — anonymous functions, scope, and the functional interfaces that give them a type. Examples: an anonymous function in JS, in Python and in Java; what a lambda captures from its enclosing scope; filtering with a `Predicate`.
2. **Streams in Java** — a basic `.stream()` example, then one worked pipeline, built up one line at a time.
3. **Events** — including how to make your own toy event system.
4. An anecdotal survey of QLD dev teams (see below).

All the technical content lives in java-lambdas-and-streams[3] and java-events[4].

[1] courses/csse2002/csse2002.pdf
[2] courses/csse2002/2026-05-28-course-summary-and-exam-preparation.pdf
[3] courses/csse2002/java-lambdas-and-streams.pdf
[4] courses/csse2002/java-events.pdf

Events

Using an event API is easy to pick up. It is often the first design pattern people use at high school, wiring up buttons on a website, without realising it. Two things are not picked up naturally:

1. a basic, naive **event system implementation**, which shows what is going on under the hood;
2. a variant of the **CSSE2002 game engine** (the engine used in the assignments) with an event system integrated, which shows how much "connective tissue" code it removes.

Both are written up in java-events[5].

Applied class

See week11-tutorial-dependency-inversion[6] — more practice with Dependency Inversion, extending java-solid-principles[7] (Week 7).

Aside: anecdotal local industry survey

An informal, anonymised survey of one engineer's professional network: **14 QLD-based dev teams** (13 excluding the surveyor's own) across **12 distinct organisations**. It is not representative data. It reflects only one person's connections in the dev scene, with *no* QLD teams in big tech, consultancies or banks. The findings (on AI tool usage and graduate hiring) are not course content.

[5] courses/csse2002/java-events.pdf
[6] courses/csse2002/week11-tutorial-dependency-inversion.pdf
[7] courses/csse2002/java-solid-principles.pdf