

TA Guide for SED Ex1 - Test Driven Development

To prepare, watch the lecture video linked below and download the exercise spec from CATE:

<https://imperial.cloud.panopto.eu/Panopto/Pages/Viewer.aspx?id=542c87a5-c46d-4ed0-9b74-adbd0113f3b7>

During the lab (Tuesday 4-6pm in Level 2 computer labs) you should:

Walk around the room, checking how people are doing. Look over their shoulder. Don't be afraid to talk to them. Do not just stand at the side and wait for people to put their hand up.

Check that they have cloned the repo and imported it into IntelliJ so that everything compiles.

Check if they are writing some tests. They should write one test, and then a little bit of implementation. They should not write all the tests first. They should not write the implementation before the tests.

Talk to them if they are writing implementation code with a green bar - that isn't TDD.

They don't have to implement the data structure from scratch, it's fine to use the standard library.

Each test should be named as a fact about the behaviour.

Each test should test one behaviour.

Example solution for the exercise:

<https://imperial.cloud.panopto.eu/Panopto/Pages/Viewer.aspx?id=67d3854d-40da-4797-8fc8-ae3200be588f#>

Marking scheme:

- + 10 if they get 3/3 on LabTS. This means everything compiles, tests pass and coverage is > 80%
- + 1 The RecentlyUsedList behaviour is generally correct.
- + 2 Each test tests a single behaviour.
- + 1 The implementation is clean and simple.
- + 1 Encapsulation is not broken - internal state is not revealed for the purposes of testing.
- + 1 Each test is as simple as it could be.
- + 1 Test use JUnit assertion functions, not the assert keyword
- + 1 Each test should be named as a fact about the behaviour. The name should not start with "test" or "should" or "check". The name should not describe the test scenario, it should describe the behaviour.
- + 1 Any duplication of setup between tests is factored out into common methods
- + 1 The list is generic in T (can be instantiated for different element types) and a test drives this out.