
ASSIGNMENT 1

COURSE: IN3240/4240 SOFTWARE TESTING

DELIVERY FORMAT: DELIVER IN A ZIP-FILE WITH SENSIBLE FILENAMES RESPECTIVELY TO THE EXERCISES. *

DELIVERY INFO: REQUIRED TO WORK IN GROUPS OF 2-4

ASSIGNMENT DEADLINE: **Monday 23.03.2020 KL. 23:59**

General information:

This assignment is divided into four (4) parts.

The first part is about unit-testing where you shall use Test Driven Development in Cyber-Dojo in order to solve some programming exercises.

The second part is about getting familiar with the online static analysis tool SonarCloud – used for detecting bugs, vulnerabilities and other issues in code.

The third part is related to the guest lecture about Security Testing given by Itera.

The fourth and last part is about static testing techniques, i.e. Reviews.

Otherwise it is important to **read the assignment carefully and perform the tasks as described.**

*If you are able to form the group with all members on Devilry's group function - deliver the assignment as usual. If you are unable to form the group with all the group members (may be due to reasons of having members on different versions of the course) - let only one group member deliver the assignment, but note each members' name, username, and course version on the front page of the deliverable.

Part 1 - Unit testing and Test Driven Development

Unit testing is very important to ensure the quality of the code and makes the regression testing practical possible. In Test Driven Development TDD each test is written before the related code and the testing is thereby completely integrated in the development process.

Delivery: The session IDs and screenshot of the session website

[Go to Part 1](#)

Part 2 - Static Analysis

Static analysis allows us to analyze code or requirements without actually executing, or running the code. The main advantage of this is that it allows us to evaluate the SUT (System Under Test) and detect flaws, vulnerabilities and other weaknesses in the software, that cannot be seen thorough dynamic testing. It therefore an important tool in security testing and in Continuous Delivery. Static analyzers are also vital in detecting defects early in the software development process.

Delivery: Answers to the questions

[Go to Part 2](#)

Part 3 - Security Testing

To prevent vulnerabilities and security holes in applications, it is important to increase awareness of Data Security and the importance of Security Testing as part of the Software Testing process. It is not possible to guarantee that a system is 100% secured against attacks - humans make mistakes - but with the right tools and expertise you can reduce the probability and consequence of various risks.

Delivery: Answers to the questions

[Go to Part 3](#)

Part 4 - Static testing - Reviews

While static testing techniques will not solve all the problems, they are enormously effective. They can improve both quality and productivity by impressive factors. Among the questions that arise are: How can we evaluate or analyze a requirements document, a design document, a test plan, or a user manual? One powerful technique that can be used is **reviews**. In principle all software work products can be tested using review techniques. The goal is to help the author and to improve the quality of the document

Delivery: An essay

[Go to Part 4](#)