## Assignment 4 Levels of testing

#### **Assignment Objectives:**



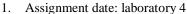
- Generating test cases for different levels of testing, integration testing.
- Use JUnit for implementing the test cases.
- Use Jenkins for Continuous Integration.
- Use Testlink for test case management.

### Assignment = In-Class assignment + Take-Home assignment



- In-Class assignment
  - o First hour of the laboratory.
  - o Maxim 25 XP
  - o TO DO:
    - 1. [Big-bang Integration Testing] (10 XP)
      - Creating Maven project. [See Maven tutorial]
      - Create 1 Test Case for **addGrade** feature (Black-box or White-box approach).
      - Big-Bang integration
        - o 1 Test case for addStudent
        - o 1 Test case for addAssignment
        - o 1 Test case for addGrade
        - o Integration testing: all addStudent, addAssignment, addGrade
        - o **Remark**: You will create a test class having 4 test methods, one for each point above, 3 test cases calling one functionality and the 4th test case calling all 3 functionalities.
      - Add the project to git (github, public) project.
    - 2. [TestLink] (10 XP)
      - Creating in TestLink the 4 implemented test cases + Requirement specification.
      - [See **TestLink** tutorial]
    - **3.** [Jenkins] (5 XP)
      - Creating a job in Jenkins for executing the 2 test cases. [See Jenkins tutorial]
- Take-Home assignment
  - o At home.
  - o Maxim 75 XP
  - o TO DO:
    - 1. Incremental integration (top-down) (20XP)
      - 1 Test case for addStudent
      - 1 integration test for addAssignment (addStudent+addAssignment)
      - 1 integration test for addGrade (addStudent+addAssignment+addGrade)
    - 2. Testlink test cases (add the new implemented test cases ) (20 XP)
    - 3. Jenkins job for all test cases (no modification required, use from IC assignment) (30 XP)
    - **4.** Modification of the source code (errors identified and corrected) (5 XP)

# **Assignment and Delivery date:**



- 2. Delivery date for **In-Class assignment:** laboratory 4 (max 25 XP)
- 3. Delivery date (first) **for Take-Home assignment**: laboratory 5 (max 75 XP)
- 4. Delivery date (last) **for Take-Home assignment**: laboratory 6 (max 50XP)

#### Turn in:



Delivered and presented in class AND upload on canvas after Delivery in class the following archives (IC for In-Class delivery, TH for Take-Home delivery, 93X change with your group, Name01Name02 the name of the team)

- a. Lab4 IC 93X Name01Name02.zip
  - i. Source code:Implementation of the test cases.
- b. Lab4\_TH\_93X\_Name01Name02.zip
  - i. Source code:Implementation of the test cases.

