

Project Requirement

Overview

This project focuses on **exception handling** and **unit testing** in Java. The goal is to implement various aspects of exception handling, create appropriate test cases using JUnit 5, and validate them through a test suite.

Team Distribution

Each team member will be responsible for implementing one of the following exception handling tasks:

- **Handling Multiple Exceptions**
- **Re-throwing Exceptions**
- **Resource Management**
- **Chaining Exceptions**

Objectives

- Implement classes for the following exception handling concepts:
 1. **Handling Multiple Exceptions:** Manage multiple exceptions in a single try-catch block.
 2. **Re-throwing Exceptions:** Re-throw exceptions after initial handling.
 3. **Resource Management:** Use try-with-resources to handle resource management and close resources automatically.
 4. **Chaining Exceptions:** Chain exceptions to capture both the cause and effect of an error.
- Write **5 unit tests** for each class, ensuring that the exception handling behaves as expected.
- Unite the tests into a **test suite** using JUnit 5.

Deliverables

- Source code for the following classes:
 1. **MultipleExceptionHandler**
 2. **RethrowExceptionHandler**
 3. **ResourceManagementHandler**
 4. **ChainedExceptionHandler**
- **Unit tests** (5 for each class), written using JUnit 5.
- A **test suite** that combines all tests and runs them in a single execution.

Steps

1. **Class Creation:**
 - Each team member will create their respective classes and implement exception handling as per the assigned task.
2. **Unit Testing:**
 - For each class, write 5 unit tests that cover the exception handling scenarios.
 - Ensure that the tests assert correct behavior and expected exceptions.
3. **Test Suite:**
 - Combine all unit tests into a JUnit 5 test suite for unified execution.
4. **Run Tests:**
 - Execute the test suite and verify that all tests pass successfully.
 - Take screenshots of the test results.

Tools & Technologies

- **Java** for coding the exception handling logic.
- **JUnit 5** for writing and executing unit tests.
- **Eclipse** (IDE) for development and testing.

Submission

The project deliverables, including the source code, test cases and the screenshots of the test results together with the videos recorded of the presentations should be submitted.