



## Java Development



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### Competition Overview

Teams will be given the problem statement at the beginning of the competition time. Time will be given for teams to read the problem statement and ask any questions in a common session. Once the question & answer time has closed, no further questions will be answered. At the end of the competition period, each team will be asked to submit their solution for judging.

The Java Competition Problem Statement will test a range of skills without going into too much detail for any particular skill. A list of tools and skills are available below to help teams prepare for what may be on the problem statement.

Using reference material, such as Java API documentation, is allowed for the competition. In accordance with MWC3's overarching rules, the use of generative AI is NOT ALLOWED for this competition.

Teams are expected to have the necessary tools preloaded on their computers prior to the competition.

# Team Composition

Individuals or teams of 2 students can register for this competition.

## Skills

- General Java Development
- Creating a GUI and/or accepting user input from the command line
- Exception Handling
- Code Documentation
- Unit Testing
- Knowledge on packaging JARs

## Scoring

The scoring rubric will be distributed with the problem statement at the beginning of the competition time slot.

## Schedule

See competition schedule for competition time and place. The time will include competition overview, competition work, and turning in your final project. Check in will begin 15 minutes before the competition begins.

## Resources

Each team must have at least 1 computer to complete your project, with the appropriate software.

You may use external dependencies or libraries as you see fit. They will not be required but may be beneficial. If you wish to use external dependencies, practice downloading dependencies and leveraging them in projects prior to the competition. Maven is the recommended tool for bringing in dependencies in a fairly simple way.

The judges will have the latest stable version of the JDK (25) available for grading purposes. Java 21 or 17 should work too if you prefer those. Please install a JDK on your machines prior to the competition. This will best ensure that the judges are able to execute your solutions. Alternative tools may be used at the risk of not being executable by the judges. We strongly encourage you to test downloads and software prior to the competition. Practice creating a simple program with your JDK, bringing in external dependencies, packaging the project as a JAR file, and executing the code from the JAR.

## Submission

You will be asked to submit your project as a JAR file that can be executed by the judges. You may also be asked to submit your complete source code for easier review by the judges.

## Tips & Miscellaneous info

### Presentation Layer Development

The problem statement may require some User Interface interaction between the application and the user. The ability to develop a GUI is preferred. Teams without GUI development experience will still be able to complete the Problem Statement if they have experience with user interaction through the Command Line. You may use whatever GUI-building tool you'd like. Some examples are:

- JavaFX
- Swing
- Eclipse SWT
- Laterna

## **Data Layer Development**

Data persistence may be required. This can be handled any way you like. Some examples are:

- JDBC (SQL)
- Java File I/O