QUINE MCCLUSKEY SIMULATOR

U S E R M A N U A L

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1.0 Organization of the Manual

- The user's manual is divided into four (4) sections: General Information, Project Overview, Getting Started, and Using the Simulator.

  General Information section explains the project and its general purpose.

  Project Overview section provides a comprehensive summary of the project as well as the language of choice used in the implementation.

  Getting Started section discusses step guides with respect to the user, in case he/she wishes to use the project in his/her workspace. This also mentions possible trouble in accessing the source code in his/her device and its suggested workaround.

  Using the Simulator section introduces the actual GUI and how to navigate the interface.

1.1 General Information

- This user manual is intended to guide the general users in navigating the ins and outs of the simulator, as well as how to get started assuming no prior experience.

1.2 Project Overview

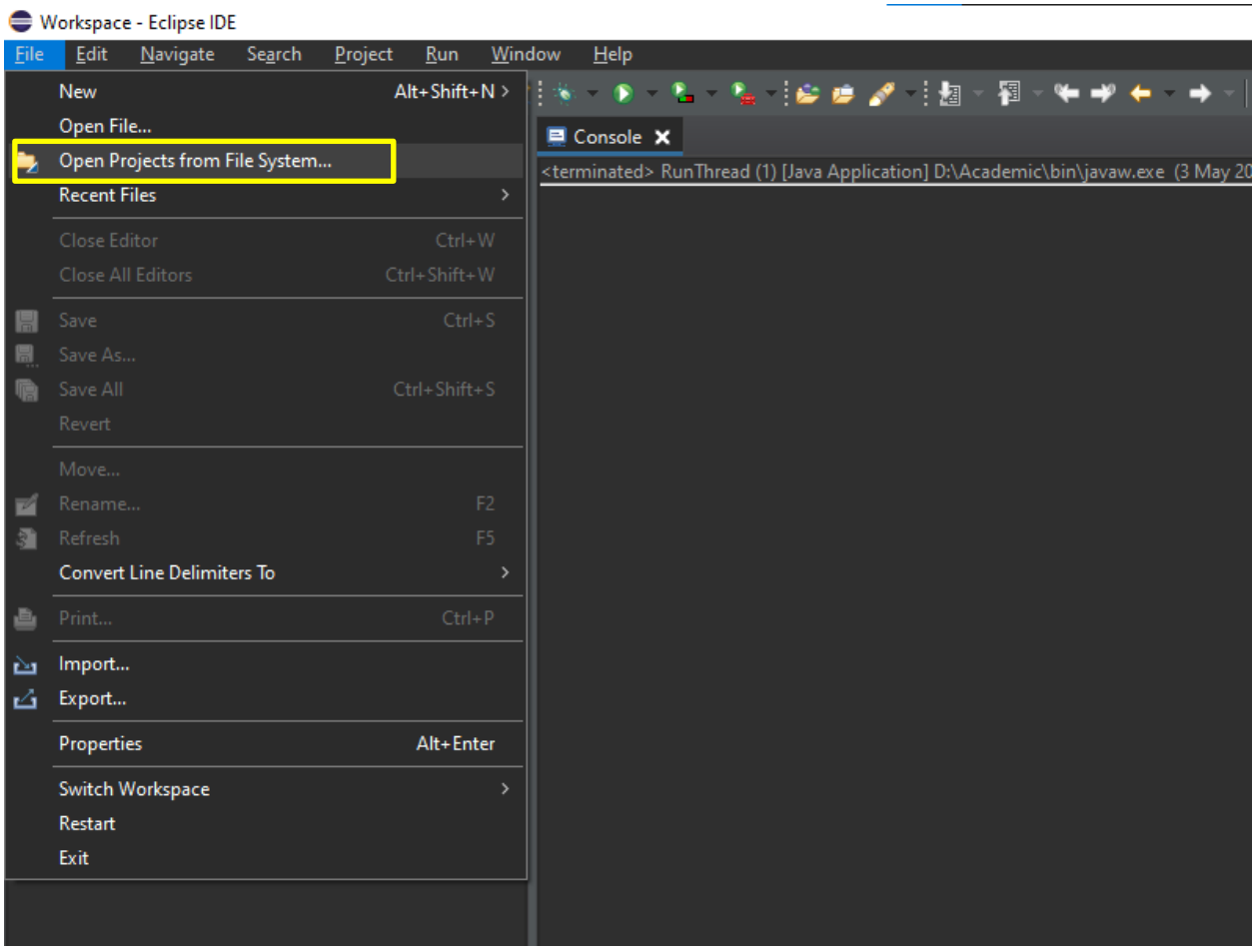
- The Quine-McCluskey Simulator implements such Boolean simplification method using Java and returns the corresponding output after scanning the input from user. This is made possible through multiple Java classes and usage of FXML to display a GUI for a user-friendly interface.

1.3 Getting Started

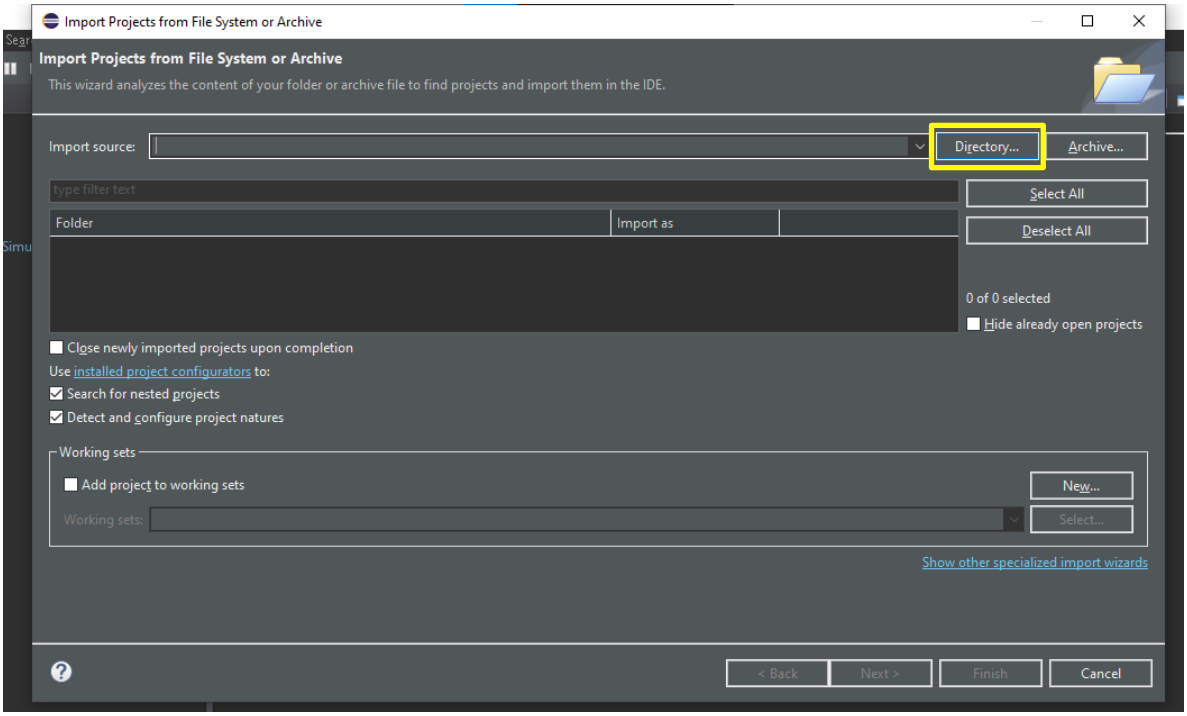
This section discusses the recommended IDE to try the source code, as well as the ideal structure and necessary arguments and jars.

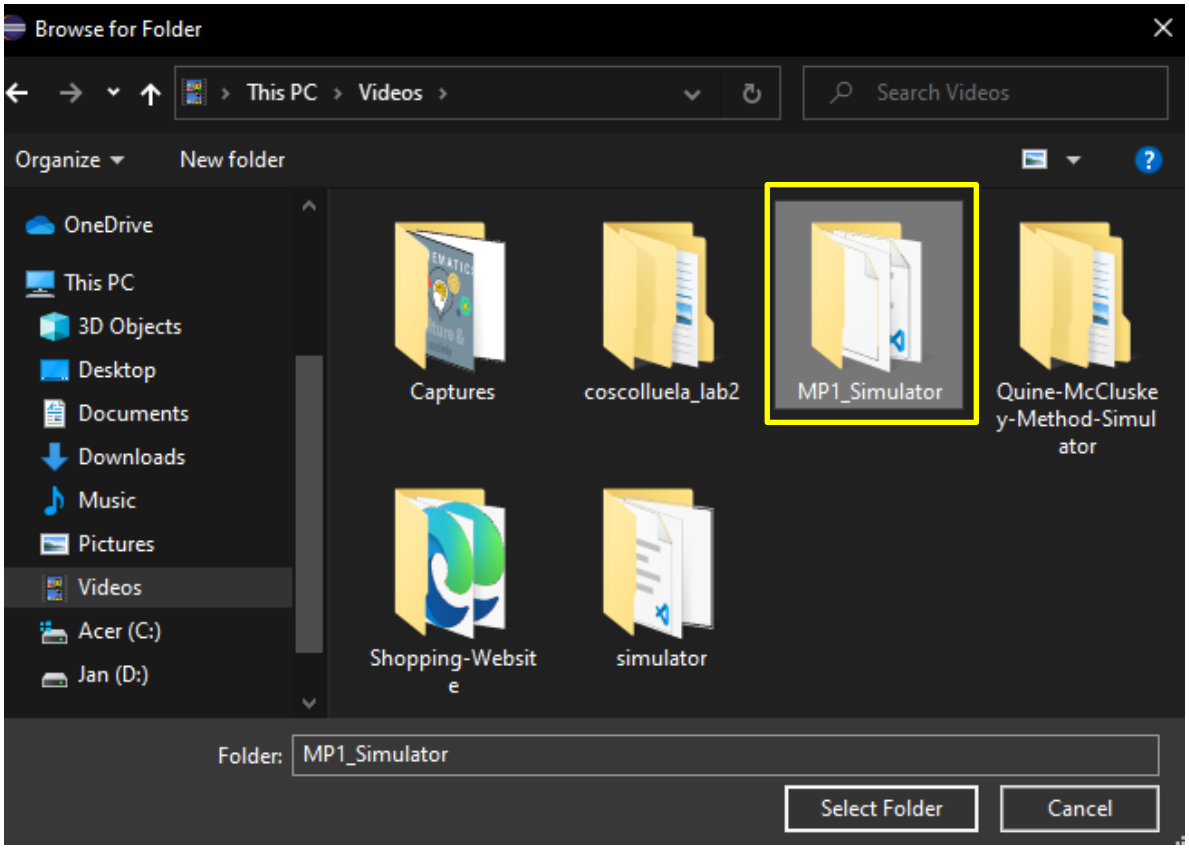
The authors have used Eclipse as the main IDE during the collaboration. You may download it here: https://www.eclipse.org/downloads/. For further need of guide steps, you may consult this video for easy installation tips of Eclipse: How to Setup Eclipse IDE on Windows For Java Development - YouTube, as well as Scenebuilder (for GUI): (1) Setting Up SceneBuilder In Eclipse in 2020 | JavaFX and SceneBuilder Tutorial in 4 minutes - YouTube. To begin, open Eclipse and follow the instructions below:

- Step 1: Click **File** > **Open Projects from File System.**

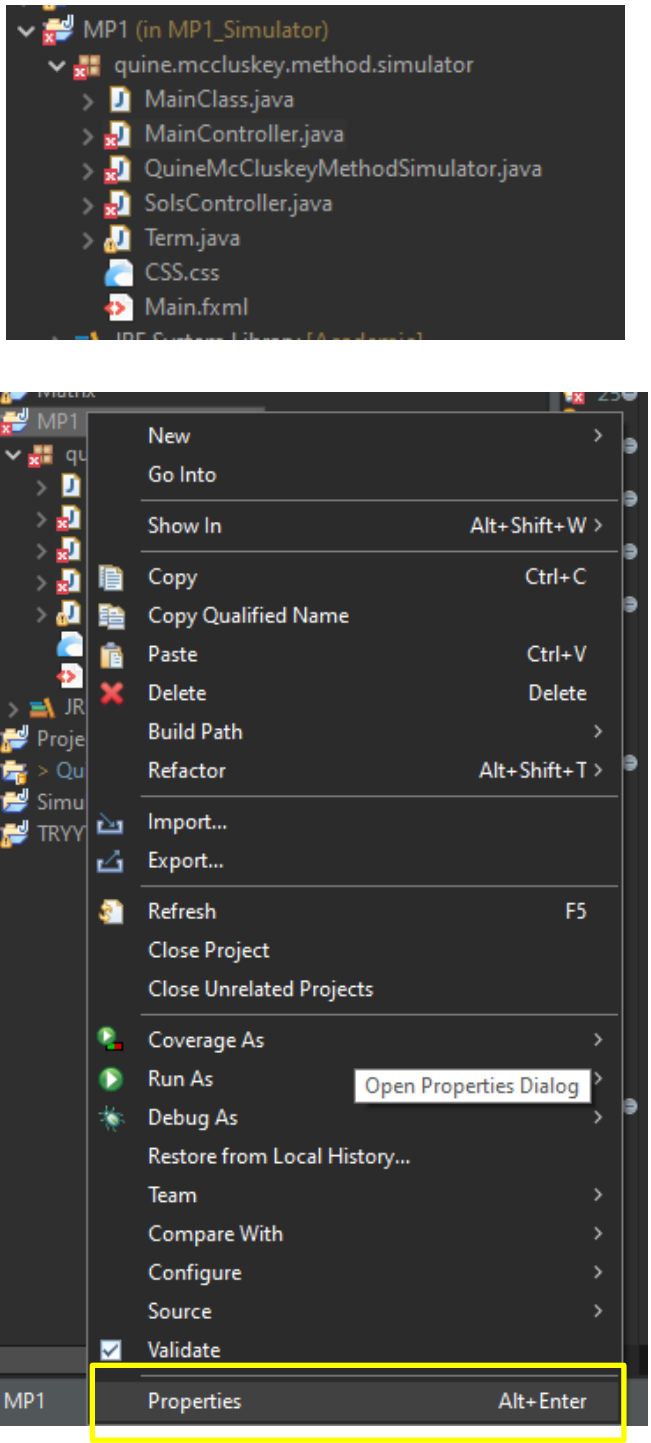


- Step 2: Click **Directory**, then choose the folder MP1_Simulator.

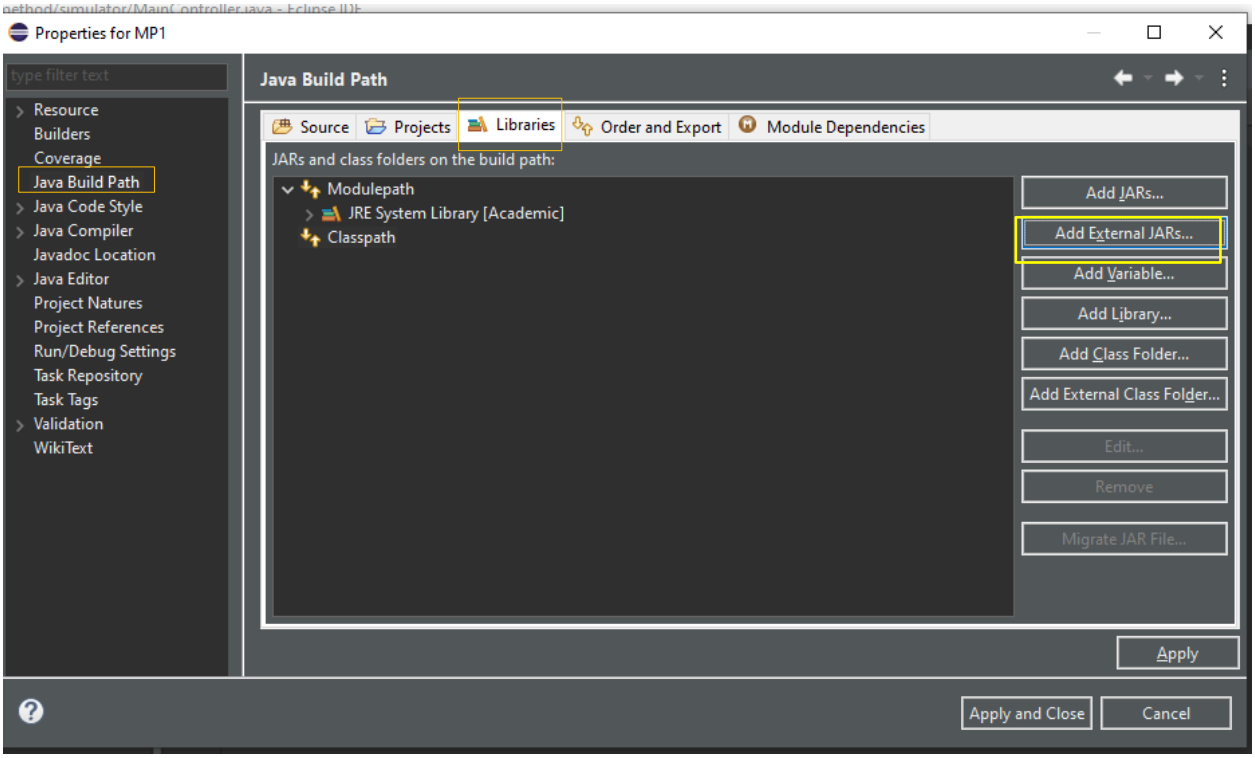


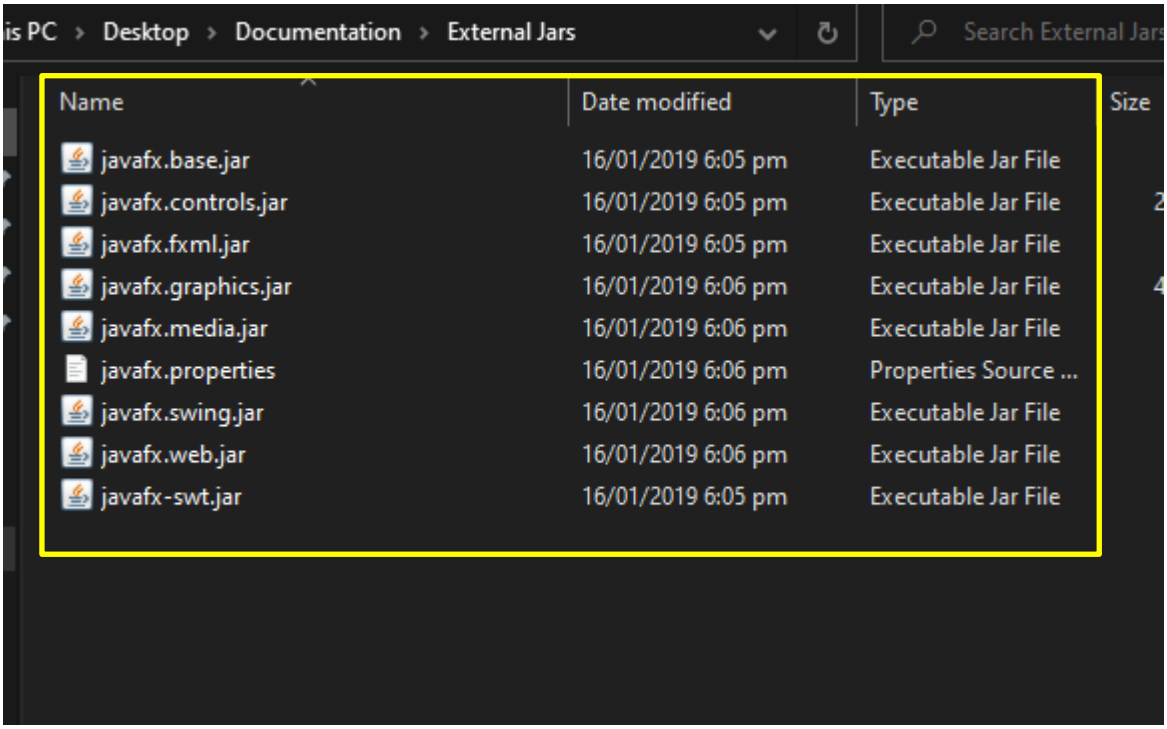


- Step 3: The workspace could possibly have an error because of missing jars and arguments. To fix this potential issue as shown in the first image below, right-click on the folder, named MP1_Simulator, then click **Properties**.

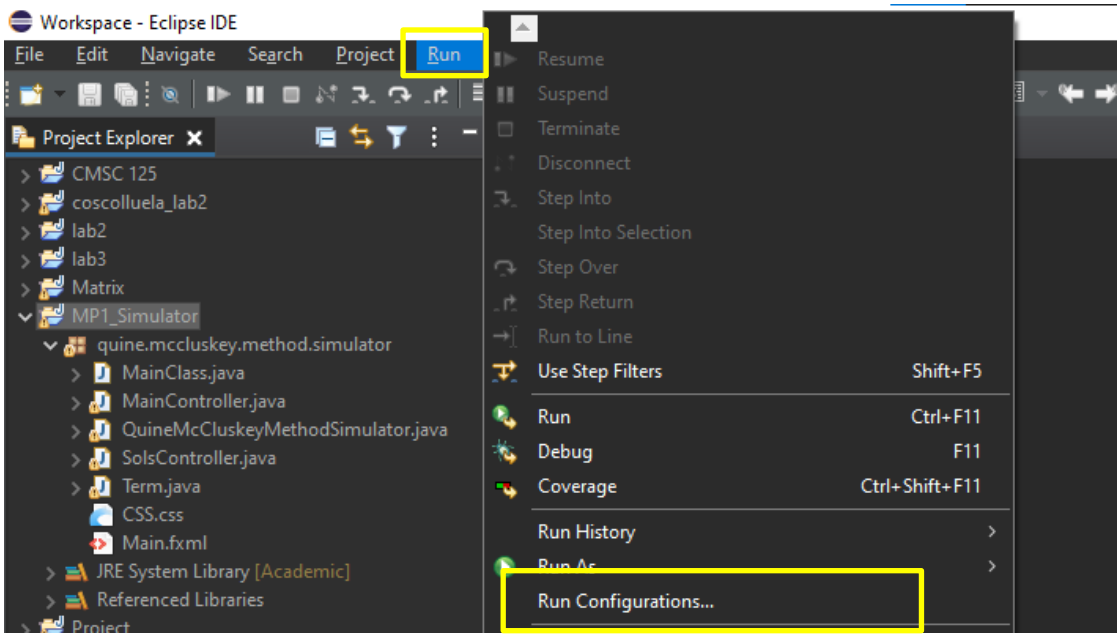


- Step 4: Click **Java Build Path > Libraries > Add External Jars.** Then add the jars shown on the second picture (under *External Jars* folder).

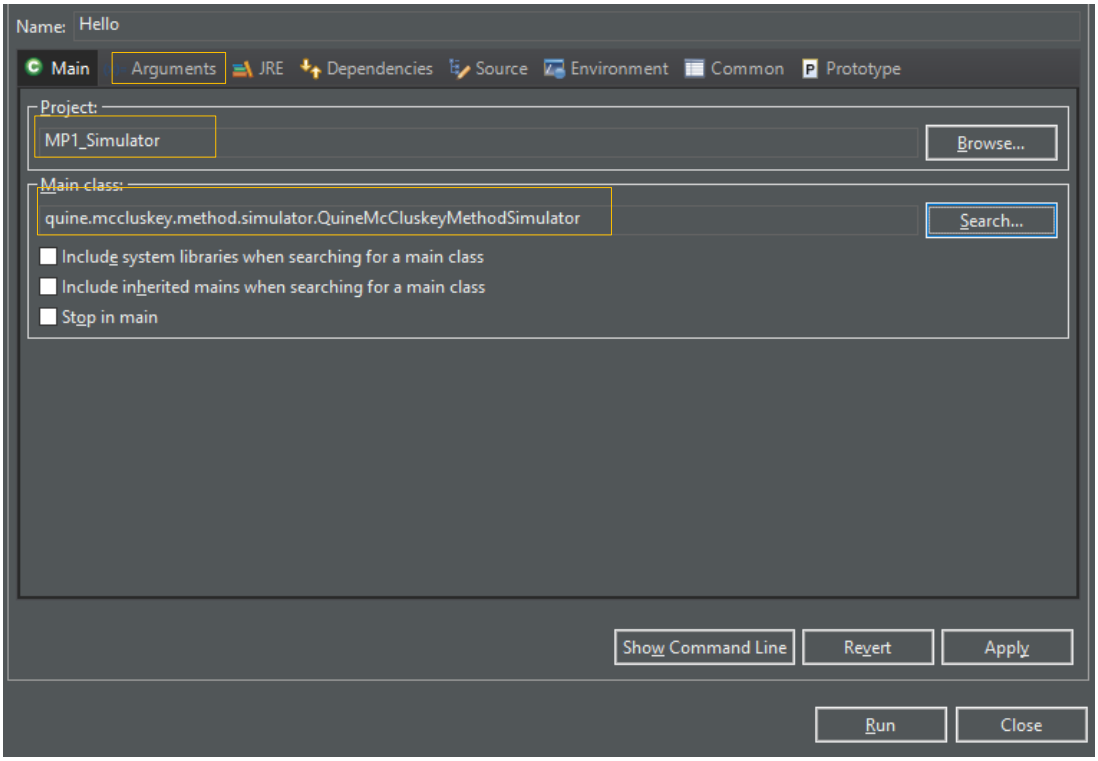




- Step 5: Further, to ensure that the codes would run smoothly, go back to the home workspace, click **Run > Run Configurations** located at the top bar**.**



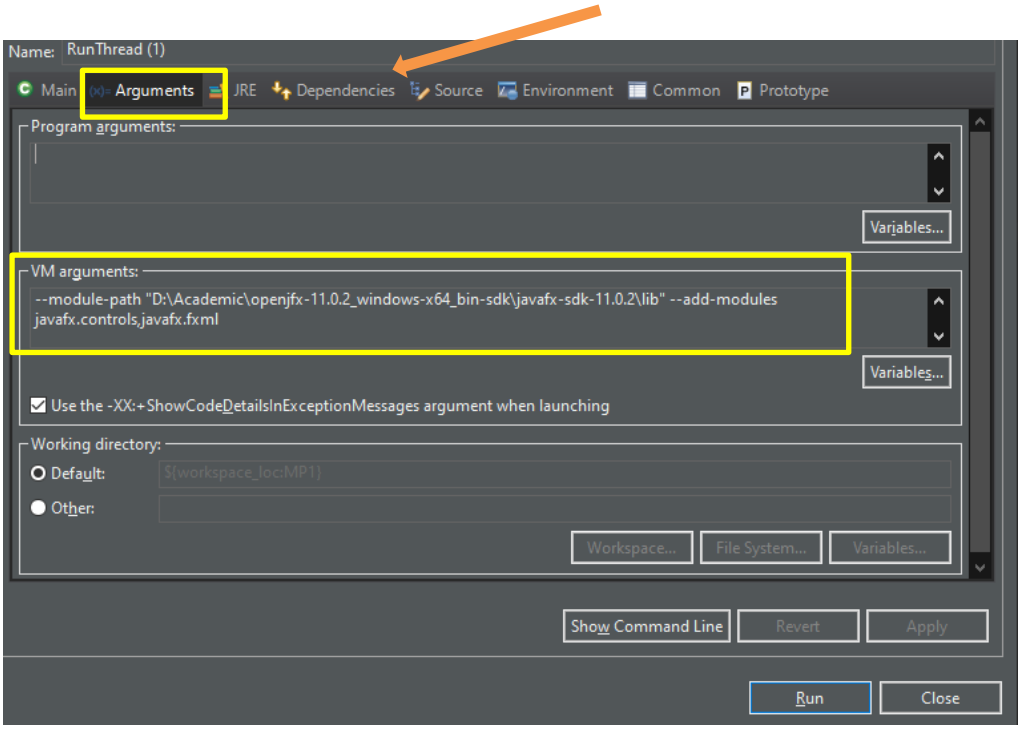
- Step 6: Make sure to have the same files selected as shown below. Then click **Arguments.**



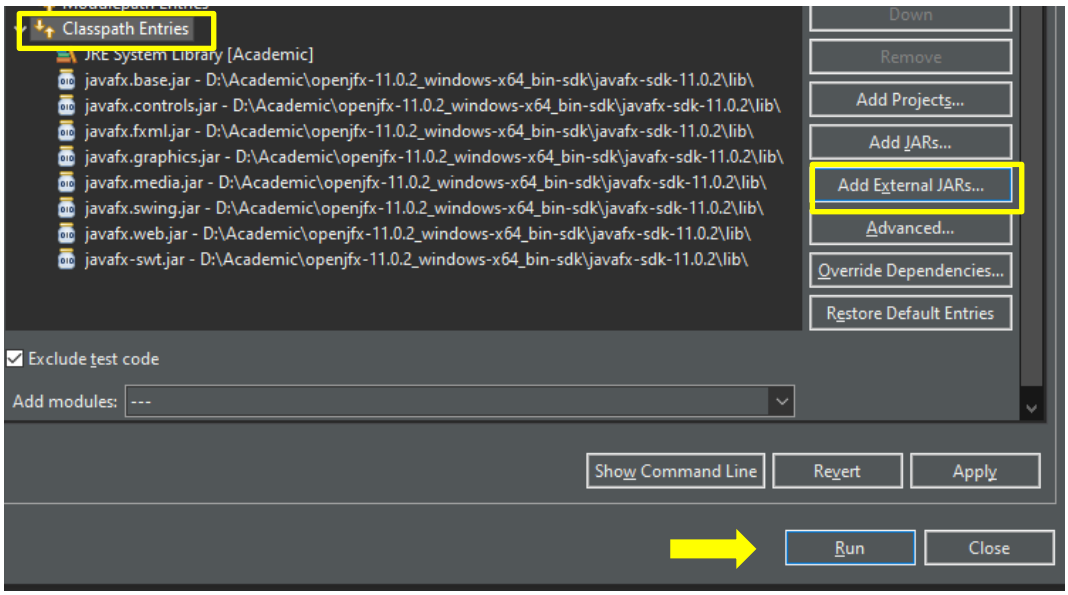
Step 7: Under **VM Arguments**, copy and paste the following:

--module-path “path-to-the-external-jars” --add-modules javafx.controls.javafx.fxml

For reference, see image below. Afterwards, click **Dependencies.**

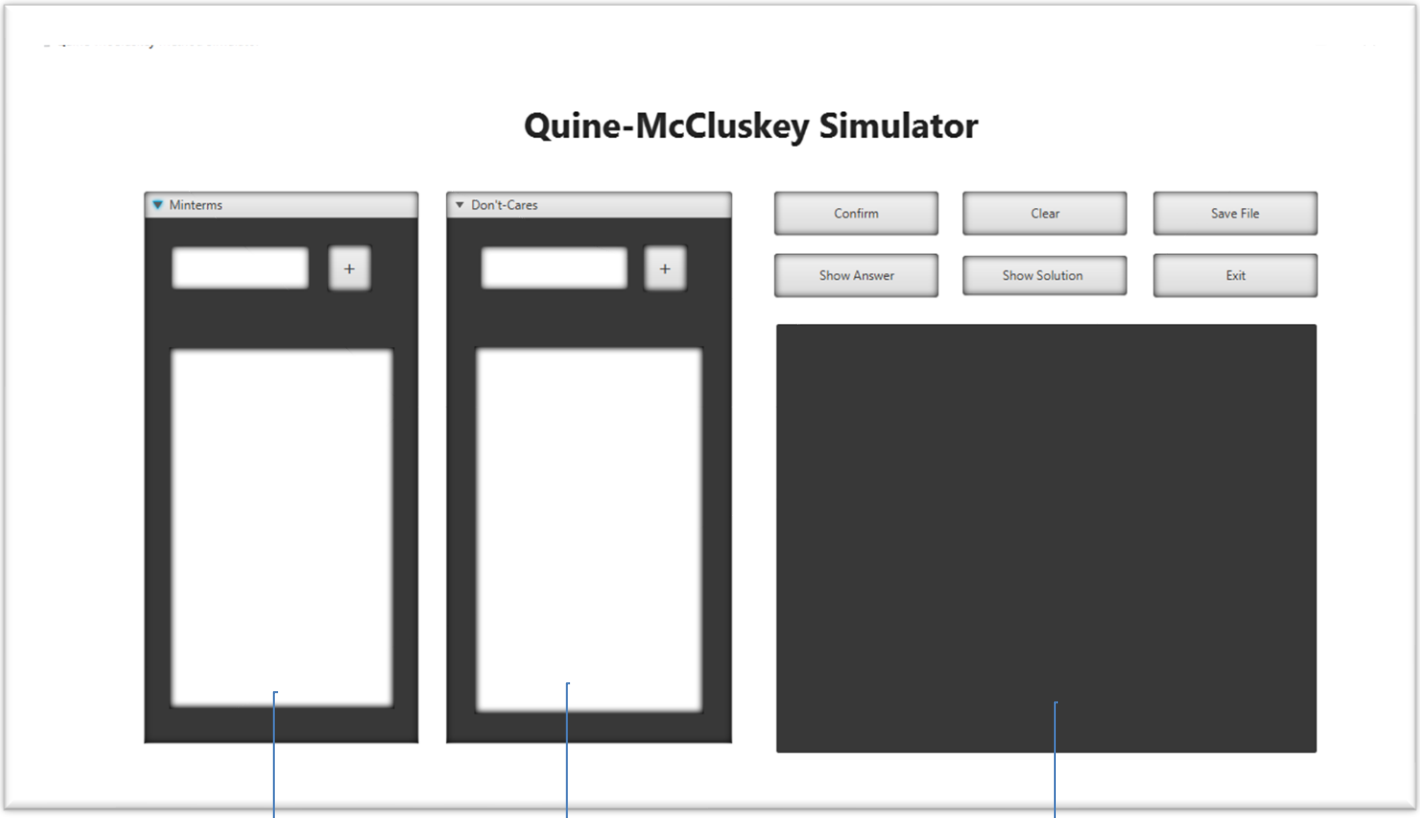


Step 8: Click **Classpath Entries > Add External JARS**, then choose the Quine-McCluskey-Method-Simulation.jar which is also provided along the source codes. Then hit **Run**.



1.4 Using the Simulator

The Quine-McCluskey Simulator provides a GUI shown below:



Don't Care section

Solution section

Minterm section

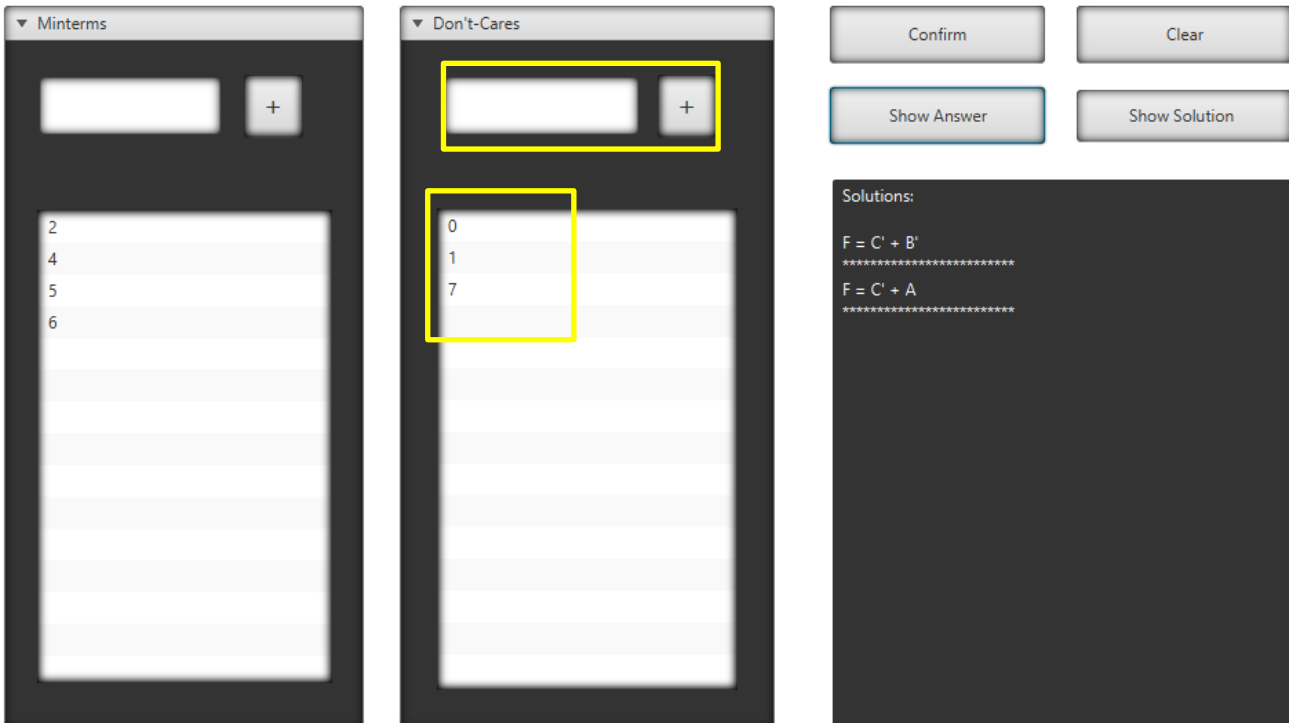
- To start, click on the empty field under **Minterms**, and input numbers (of your choice) that evaluate to 1. Two scenarios are provided below.

Note: Hit the **Enter** button (or the **+** sign beside the empty field) between every input to confirm the numbers. Afterwards, such input would be displayed. Then do not forget to click **Confirm > Show Answer** to see the output. Not clicking the **Confirm** button would display nothing on the solution box, hence it is a required button to apply all the inputs.

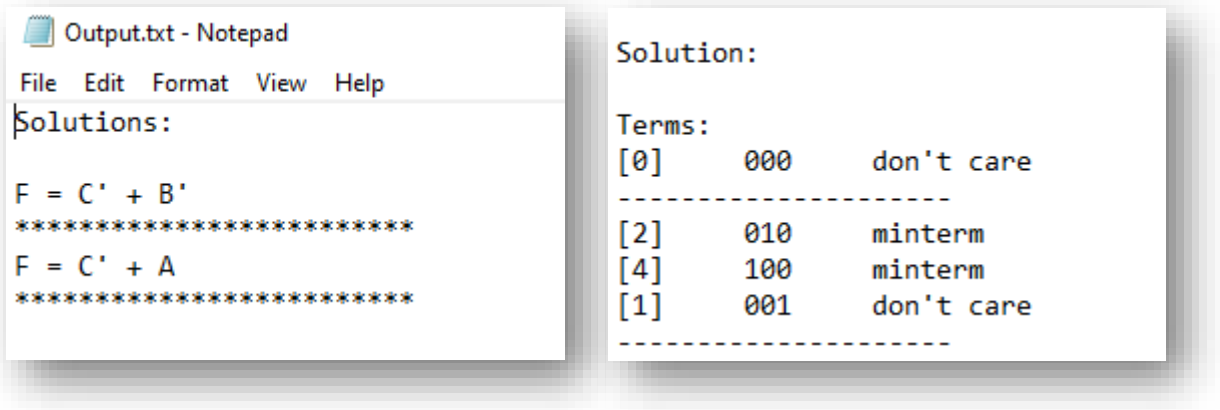
Scenario 1: *Confirm -> Show Answer*

Scenario 2: *Confirm -> Show Solution*

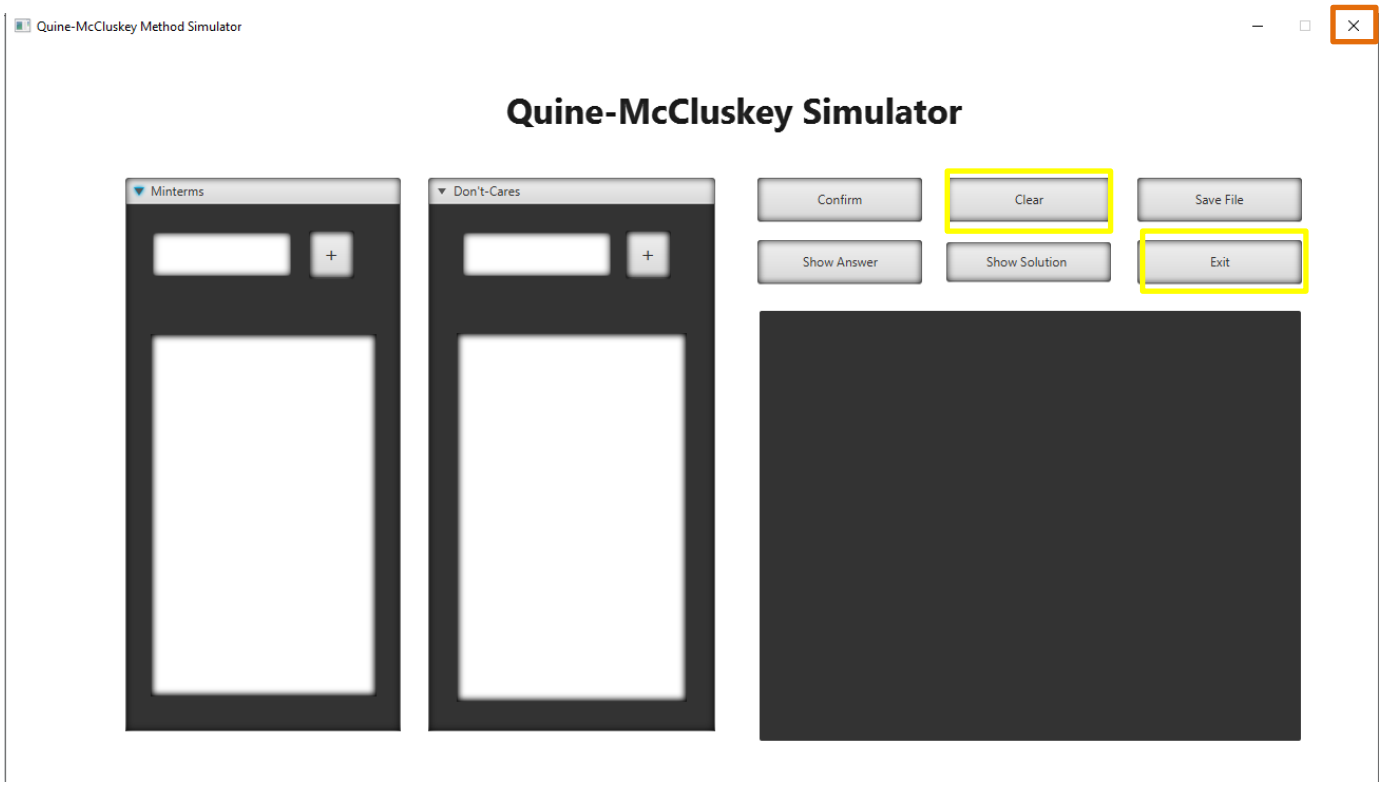
- Similarly, you can enter numberS in the *Don't-Cares* field and do the same steps.



- You can also save your file by clicking the **Save File** button which will enable you to download the results into a file with .txt extension. Sample is shown below.



- Hit the **Clear** button to delete all entries and go back to the beginning. Lastly, click the **Exit** button or simply the **"X"** button at the top right to end session.



Feedback or Concerns

For any queries, feedback, or concerns regarding the project,

feel free to contact us =)

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