Computer Simulator

A Computer Simulator has been designed using Java (JDK version 19).

**To run the simulation, follow the steps**

* Run the JAR (ComputerSimulator\_Group9) file by double clicking on it or run from the command line using the command java -jar "ComputerSimulator\_Group9".

**Operation of the Simulator**

* **Initial Program Load**, click the INIT button to load the program counter initially. The "Custom Init" button will open a dialog box for the user to choose the IPL file they want to use (It doesn't have to be called Init.txt), starting point for code execution in the simulator. The first location listed in the first line of the txt file would be taken as the PC if the "Init" button or "Custom Init" is clicked.
* **Reading the memory locations**, Click on the Instruction toggle bits corresponding to the memory address and Click on LD corresponding to MAR. Click on the "Load" button, and MBR will be loaded with the value/instruction stored in MAR.
* **Store Memory location**, Click on the Instruction toggle bits corresponding to the memory address and Click on LD corresponding to MAR. Click on the Instruction toggle bits corresponding to the value/instruction and Click on LD corresponding to MBR. Click on the "Store" button, MAR will be stored with the value/instruction stored in MBR.
* **Single Step,** click on the INIT button to load the PC with the first memory address location, then Click on the "SS" button to Single Step. If memory values have been manually stored, Load the PC value with the memory that needs to be Single Stepped, and then click on the "SS" button.

**\*\*\*\* Please refer to the Design notes for in detailed working of the Computer Simulator**