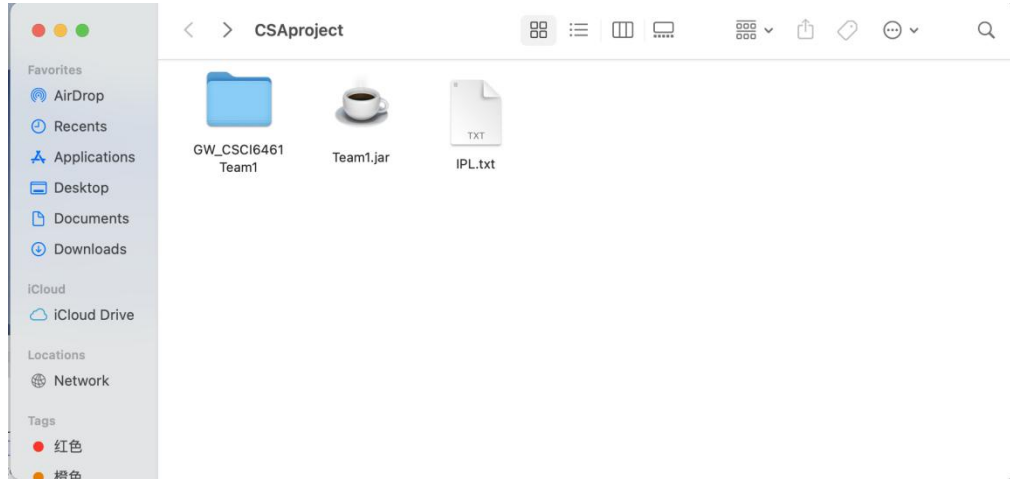


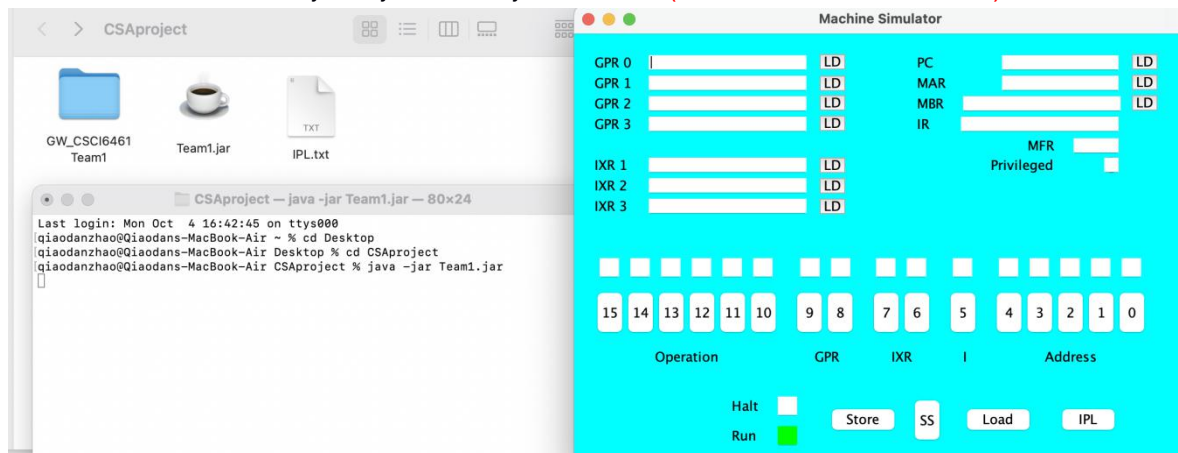
User Guide

1. Start machine

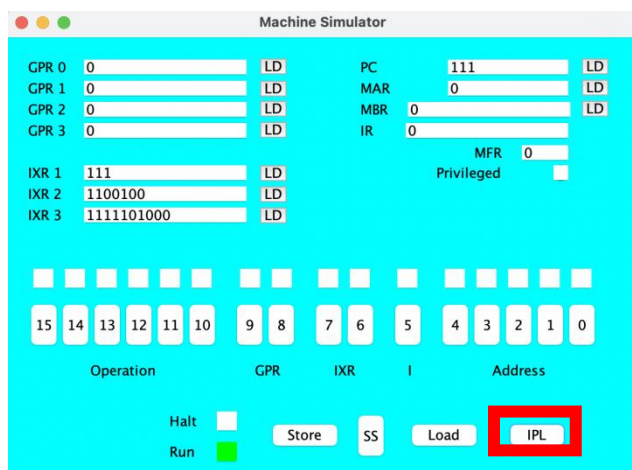
1) put the Team1.jar and IPL.txt in the same folder



2) Open the terminal and go to the folder consisting Team1.jar and IPL.txt and use terminal command line “java -jar Team1.jar” to start. (Double click will not work)

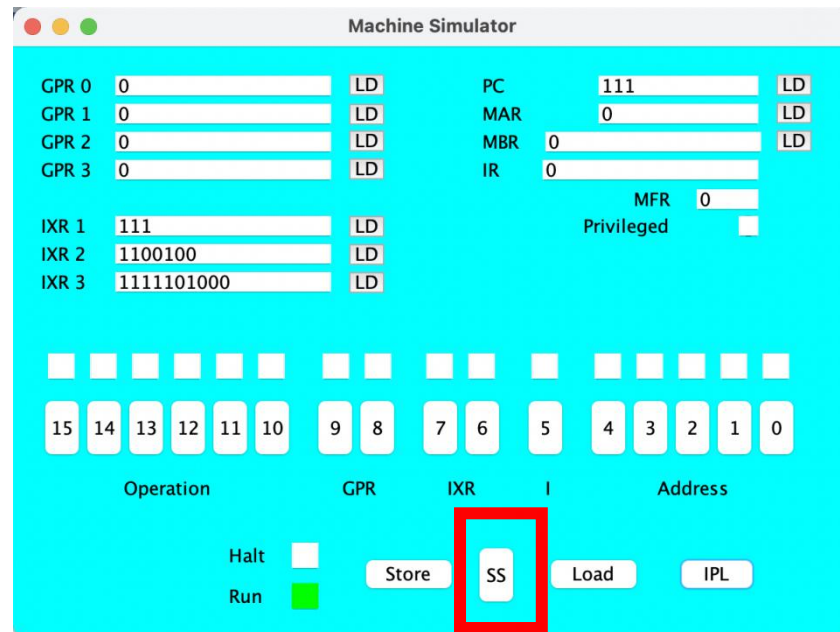


3) press IPL button to start and get initial status.

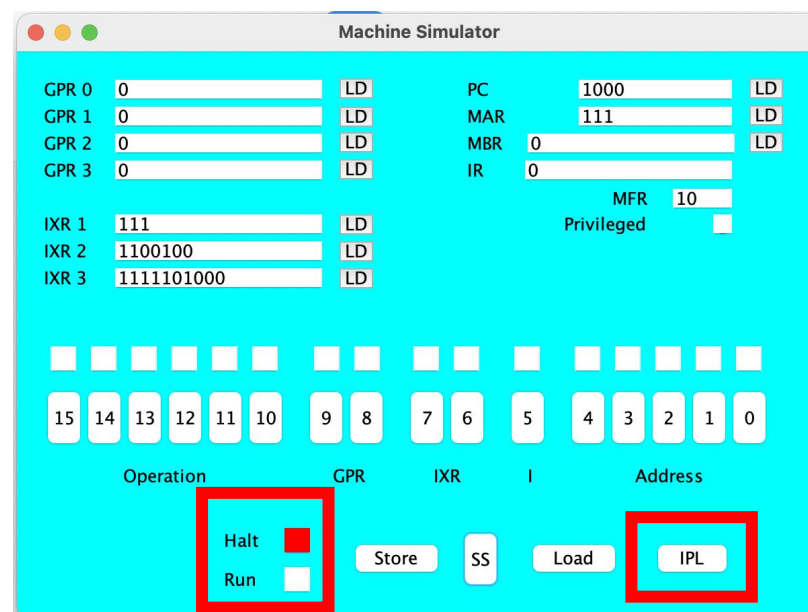


2. Run instructions in IPL

1) If the IPL.txt consist instructions starting from location 0, use SS button to run the instructions in the IPL.txt one by one. (opcode include halt, LDR, STR and LDA, LDX, STX which are 0, 1, 2, 3, 33, 34)



2) If the machine run all the instructions in the IPL.txt and reach the end or get the halt instruction which is 0, or the IPL.txt does not consists correct instructions, the machine will halt. Then the machine will not work anymore. Then you should press IPL button to restart the machine.



3. load and store button

1) If the IPL.txt is not instructions, then you can use load and store button to get the data from the memory or write the data to the memory.

2) For load instruction, type the correct instructions in the textbox with correct opcode "000001" (If the opcode is not correct, the machine will halt and need to be restarted using IPL button), then click the Load button. Then you can see the changes in the register above.

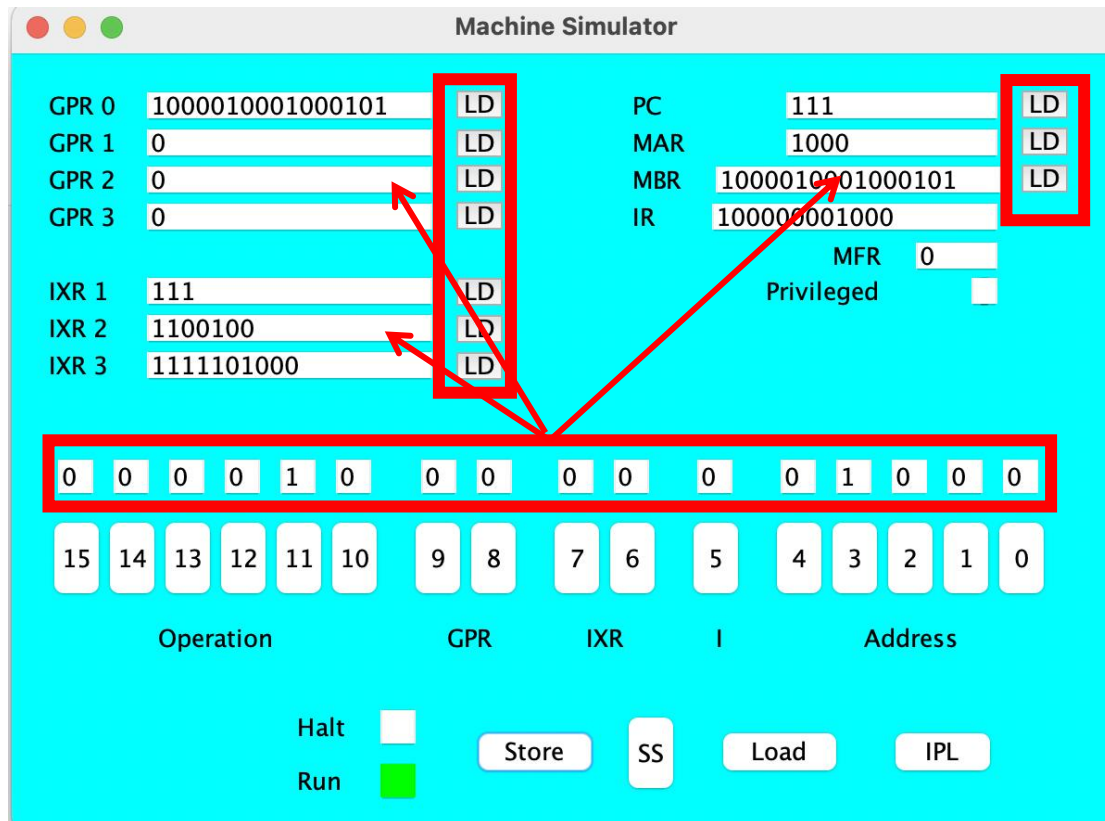
The screenshot shows the Machine Simulator interface. At the top, there are registers: GPR 0 (1000010001000101), GPR 1 (0), GPR 2 (0), GPR 3 (0), IXR 1 (111), IXR 2 (1100100), and IXR 3 (1111101000). To the right are PC (111), MAR (0), MBR (1000010001000101), IR (100000000000), and MFR (0). Below these is a 16-bit instruction register with bits 15 to 0. A red box highlights the first six bits (bits 15 to 10) which are 000001. Below the instruction register are buttons for Operation, GPR, IXR, I, and Address. At the bottom, there are buttons for Halt, Run, Store, SS, Load, and IPL. The Load button is highlighted with a red box. A red arrow points to the instruction register with the text "Type Here".

3) For store instruction, the opcode should be "000010"

The screenshot shows the Machine Simulator interface. At the top, there are registers: GPR 0 (1000010001000101), GPR 1 (0), GPR 2 (0), GPR 3 (0), IXR 1 (111), IXR 2 (1100100), and IXR 3 (1111101000). To the right are PC (111), MAR (1000), MBR (1000010001000101), IR (1000000001000), and MFR (0). Below these is a 16-bit instruction register with bits 15 to 0. A red box highlights the first six bits (bits 15 to 10) which are 000010. Below the instruction register are buttons for Operation, GPR, IXR, I, and Address. At the bottom, there are buttons for Halt, Run, Store, SS, Load, and IPL. The Store button is highlighted with a red box.

4. LD button

We can use the “LD” buttons to change the data in any register if the data is not beyond the limitation.



5. Machine Fault

If the machine halts, we can see the machine fault status in the “MFR” textbox.

“0” means accessing to the reserved location, “10” means the opcode is not correct, “11” means accessing the location in the memory beyond limitation.

