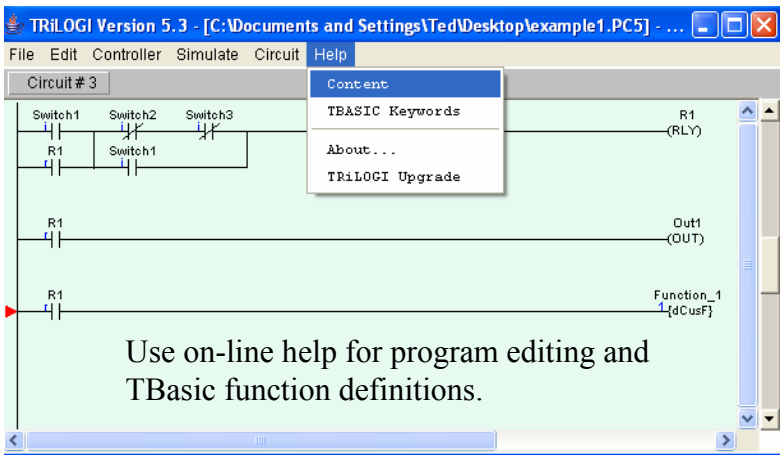
TRILOGI
5.3
PLC Ladder Diagram Programmer and Simulator

A tutorial prepared for IE 575 by
Dr. T.C. Chang

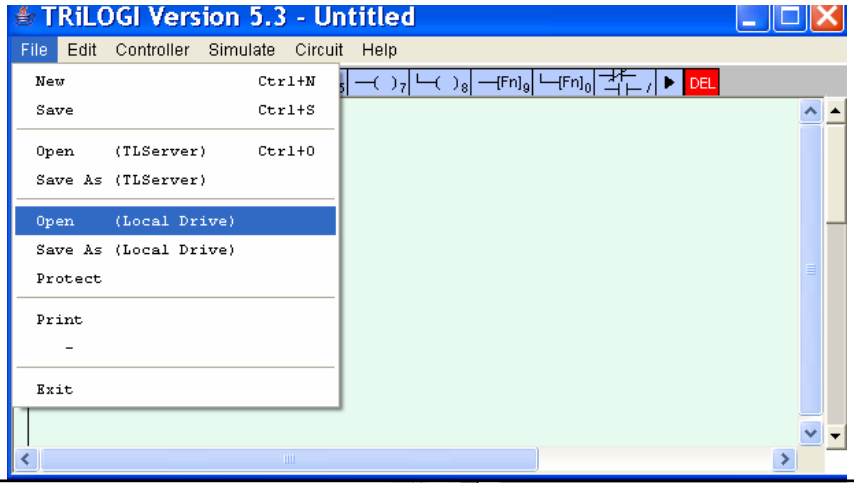
Use On-Line Help



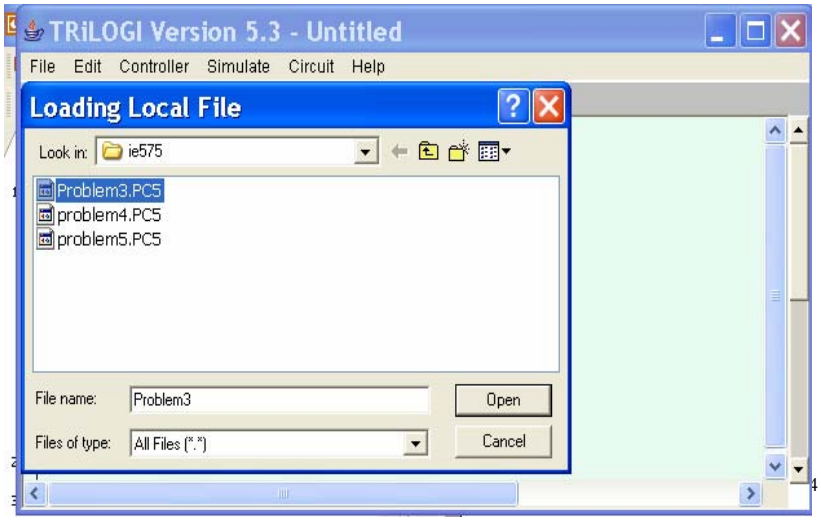
Use on-line help for program editing and TBasic function definitions.

Open File

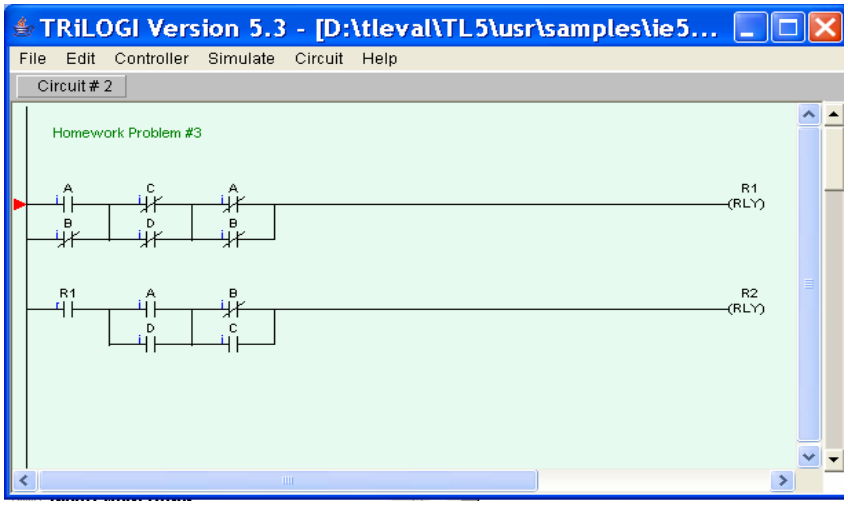
Open from local drive (file on your disk).



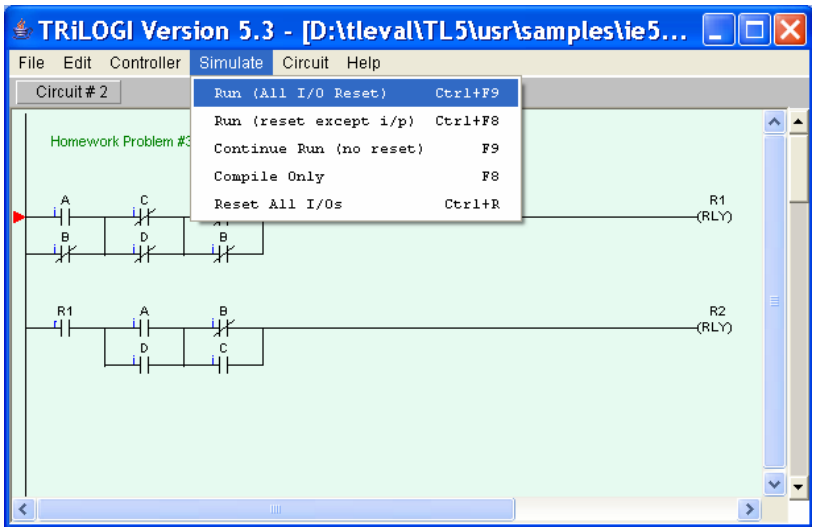
Select the desired file



File Open



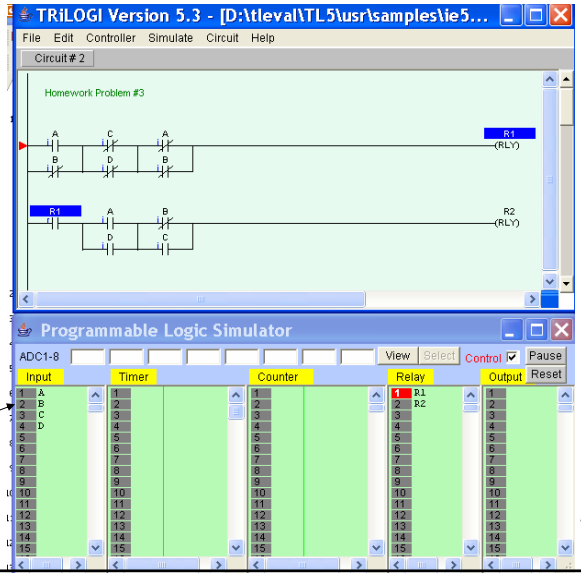
Simulate the Program



Simulation

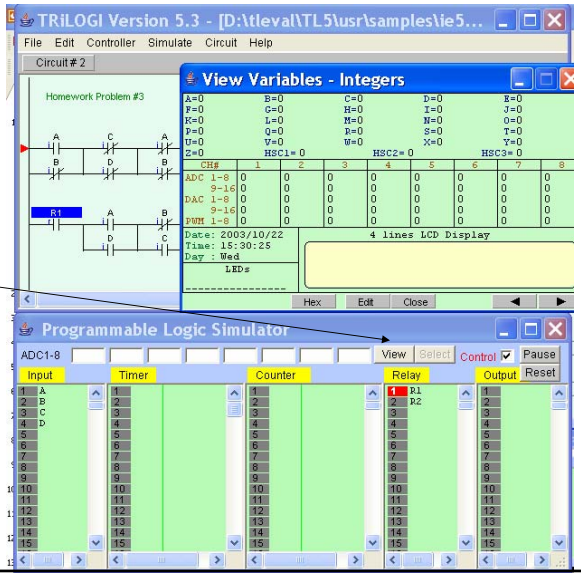
Use left button to select an input (push button).

Right button to toggle an input.

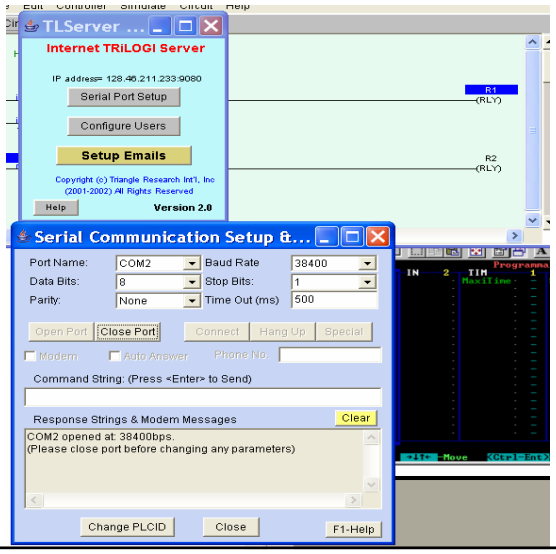


Simulation

Click "View" to show variables.



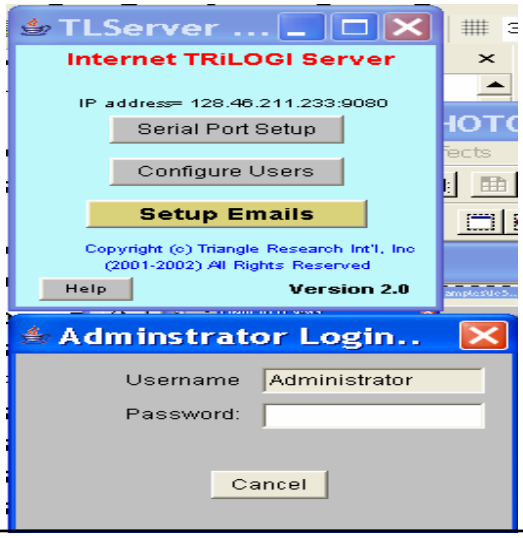
Start Server



Need server to connect to a PLC.

Set the correct COM port. In networked PLCs use "Change PLCID" to set PLC ID number. The PLC ID will be saved in the EEPROM of the PLC.

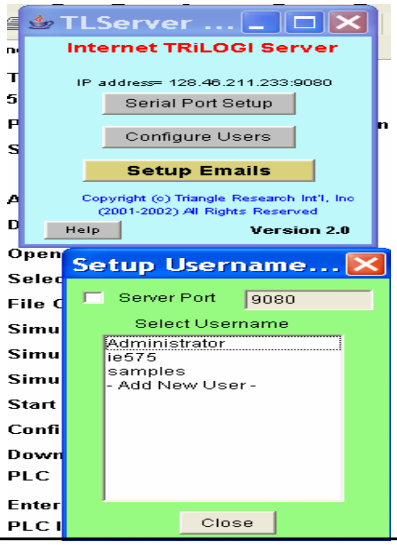
Configure Users



Click Configure Users. You must be an administrator to enter a new user.

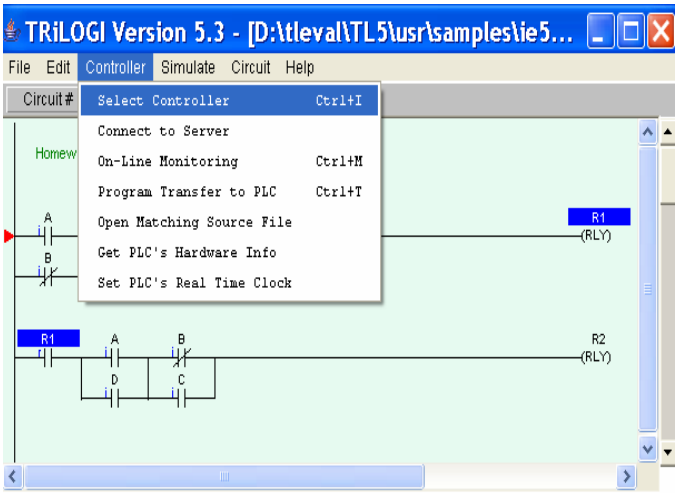
This is not for IE 575 students.

Enter New User

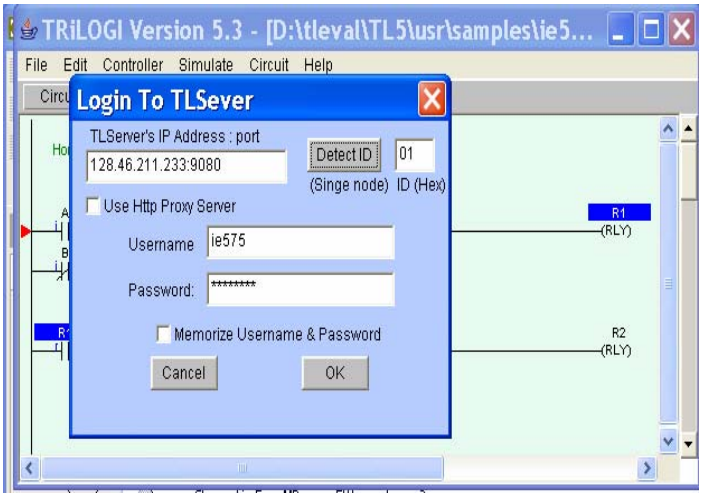


Click –Add New User- to add new user.

Download program to PLC – select PLC

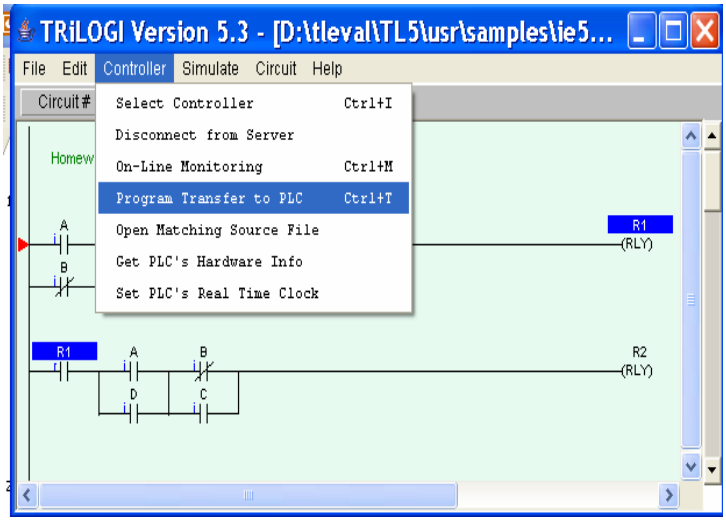


Enter Username, Password and Select PLC ID

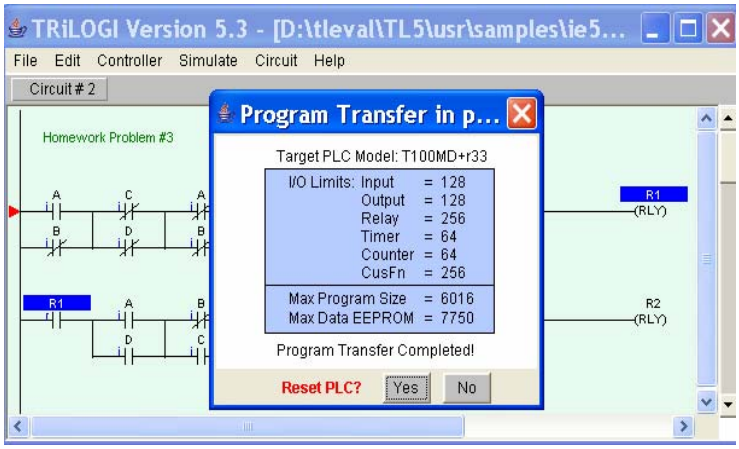


IE 575 students use ie575 and camclass as username and password.

Program Transfer to PLC

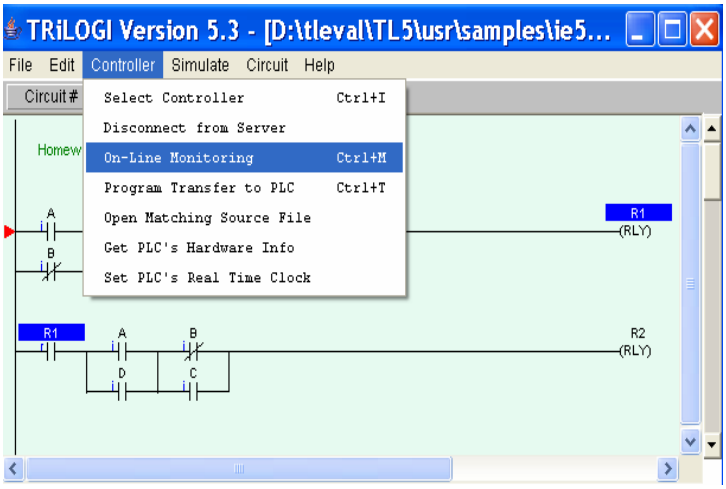


Program Transfer

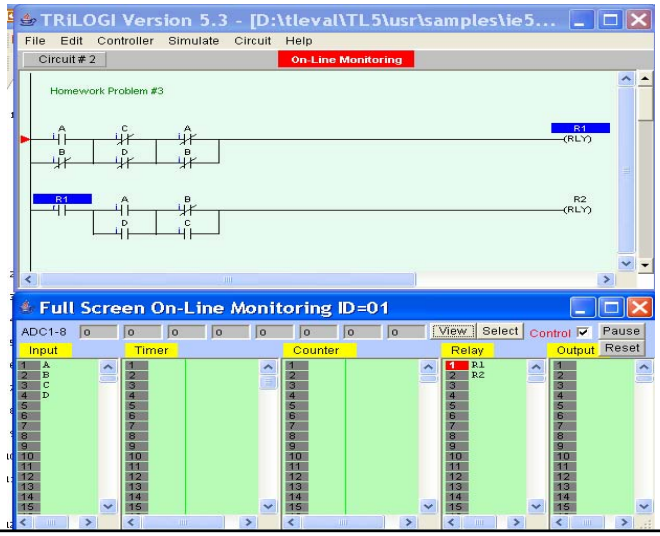


Click "Yes" on several questions and the program will be transferred. "Yes" on Reset PLC.

On-Line Monitoring

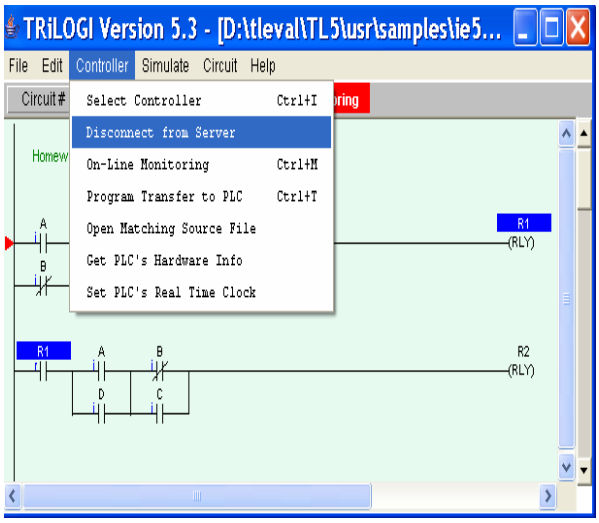


On-Line Monitoring Window



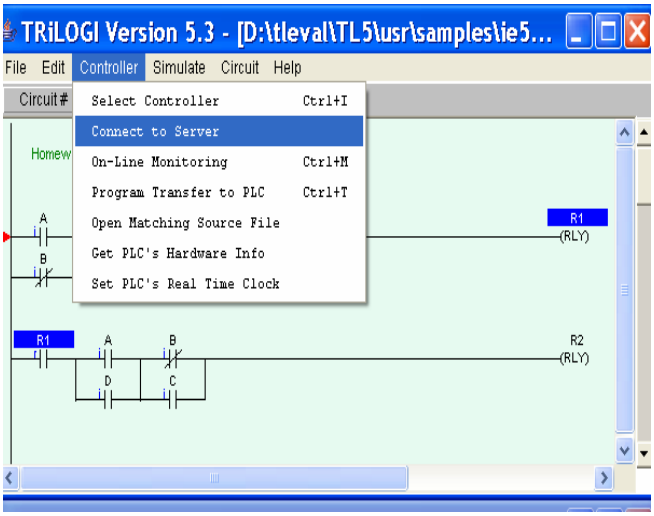
You may not click on the input to change it. Only input at the PLC will be shown.

Disconnect from Server



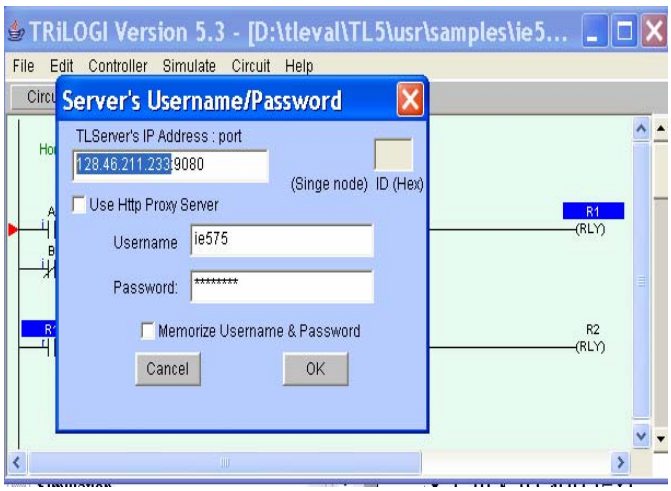
In order to link your TRiLOGI window to a different PLC, you must disconnect it from the current PLC.

Connect to Server



In the previous example, the server was running on the local PC. You may connect to a server running on a remote PC (anywhere), as long as you have the username and password for the PLC and the IP address of the PC.

New Server

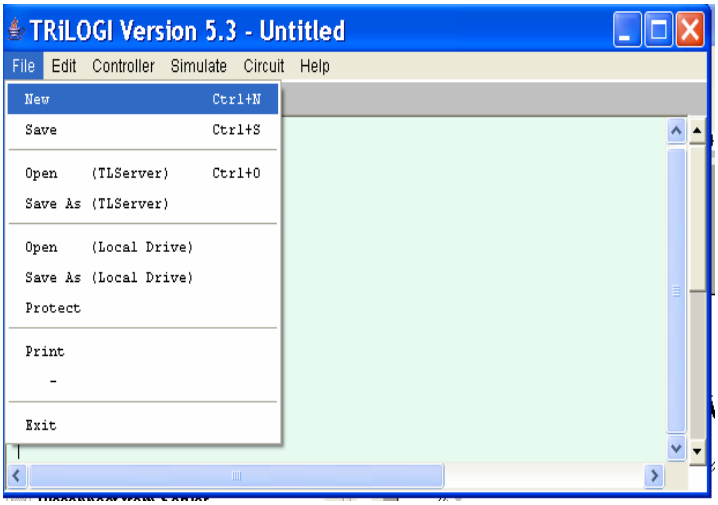


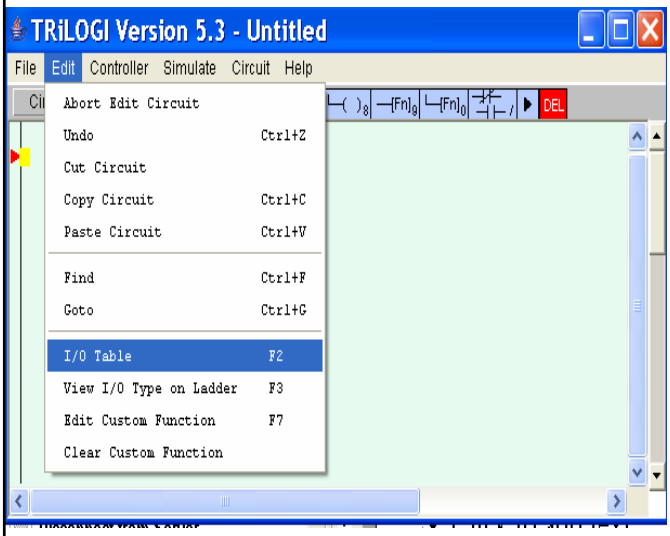
Change the server IP address.

User New Server

- After the new server has been connected, treat it the same as the local server. No extra example will be given here.

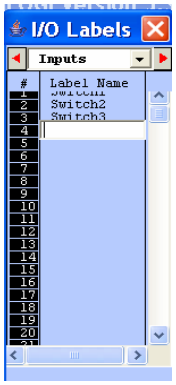
Input New Program





You must define I/O table before you may insert new circuit (rung).

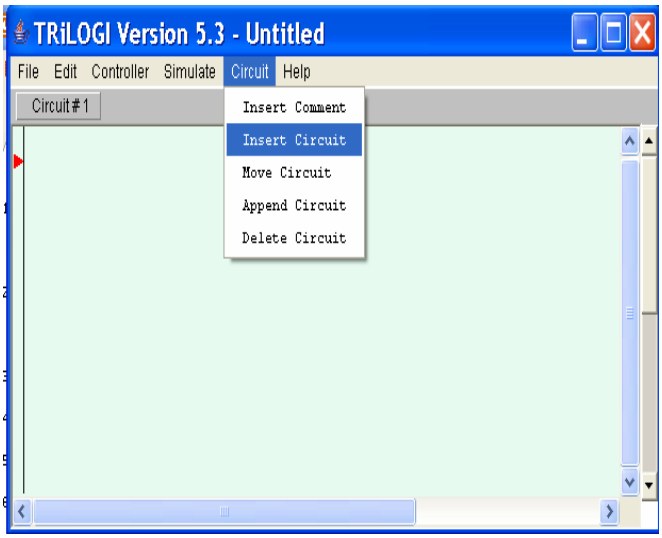
I/O Table



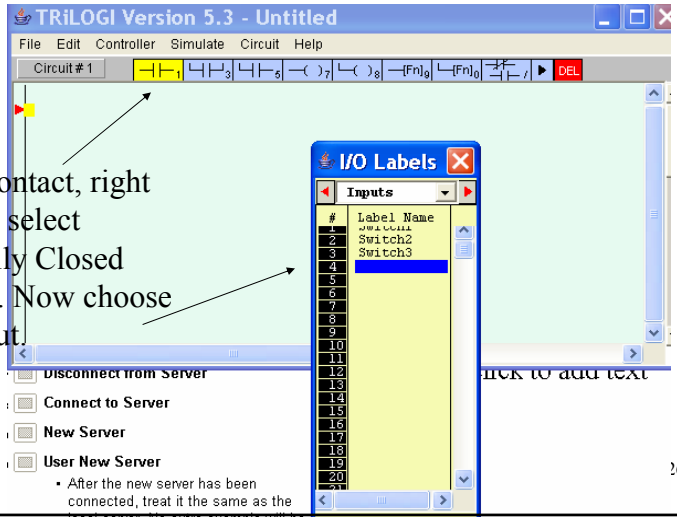
Click the label name for Input # 1 to enter “Switch1”. Press “enter” to enter the name.

Click the > button to advance to “Output”, “Relay”, “Timer”, etc.

Insert Circuit



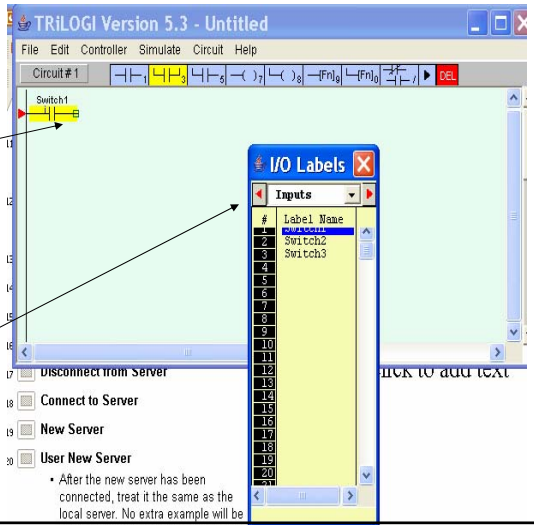
Insert a Contact



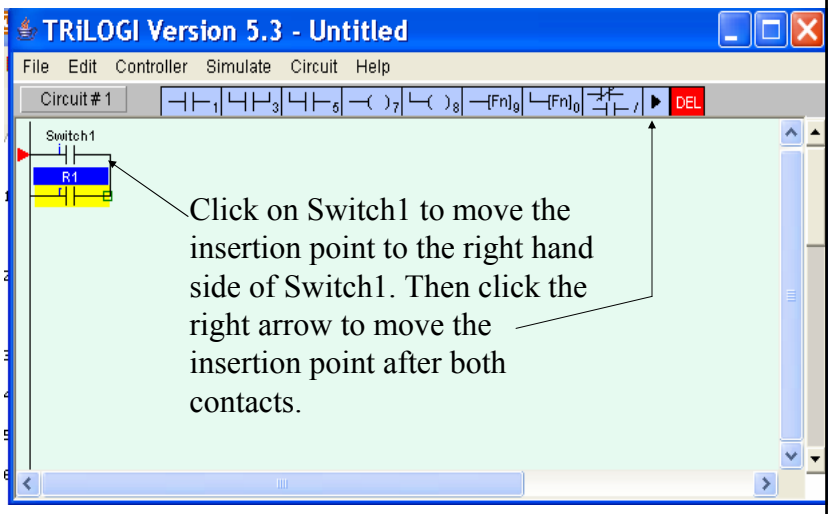
Click contact, right click to select Normally Closed contact. Now choose the Input.

“OR” and Contact

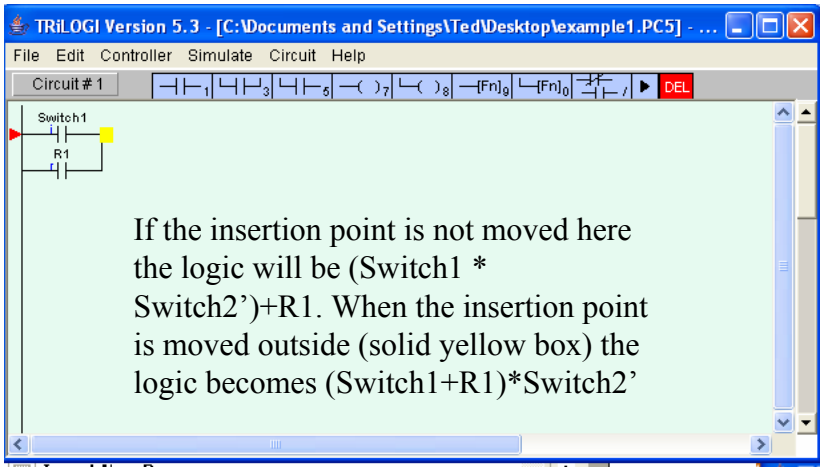
Insertion point is shown in a green box. After the “OR” contact is selected, choose a relay from the I/O table. Use the “>” or the pull down menu to select Relay.



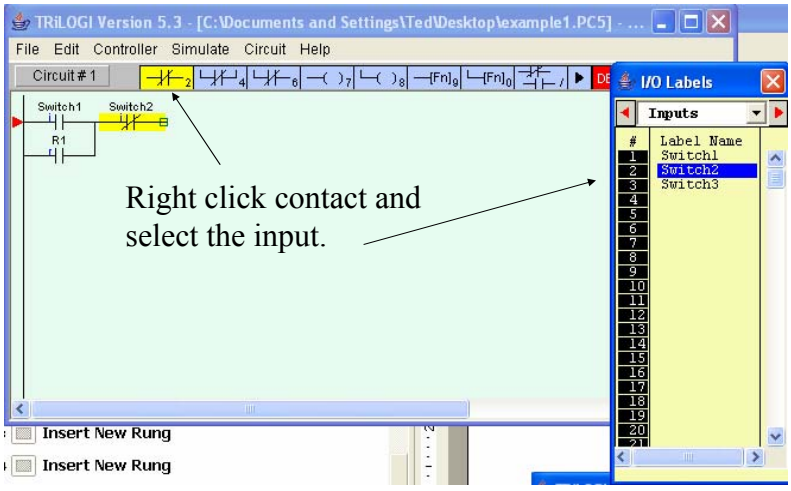
Choose a Relay Contact



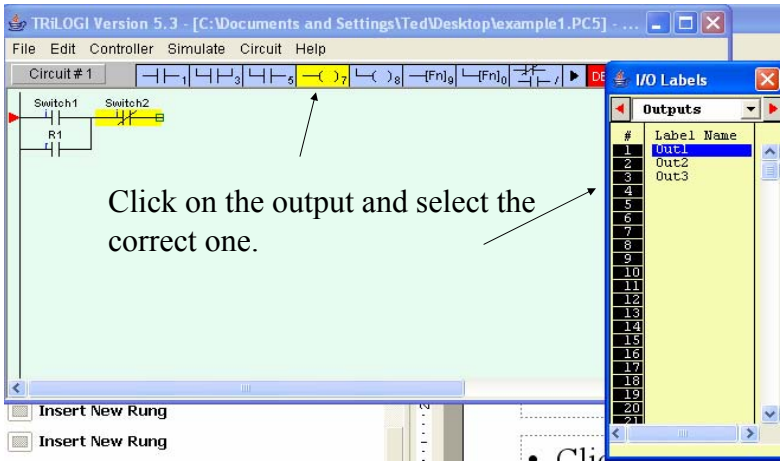
New Insertion Point



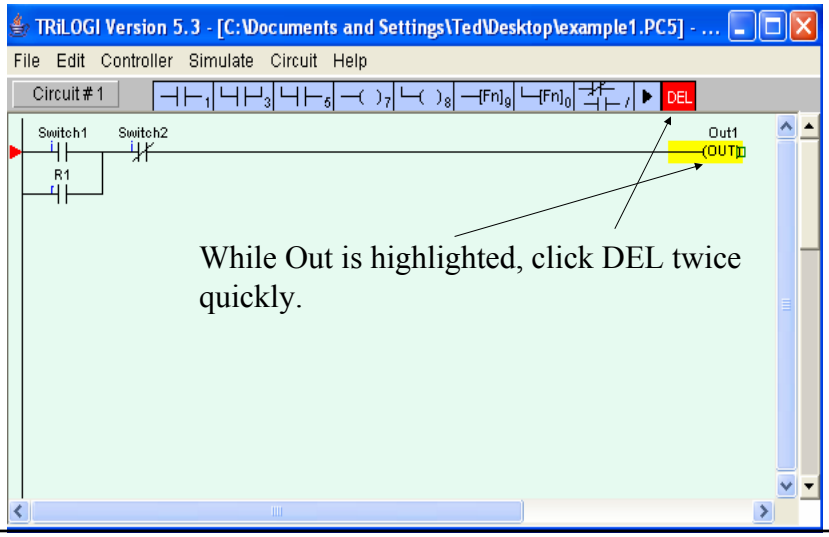
Insert a Normally Closed Contact



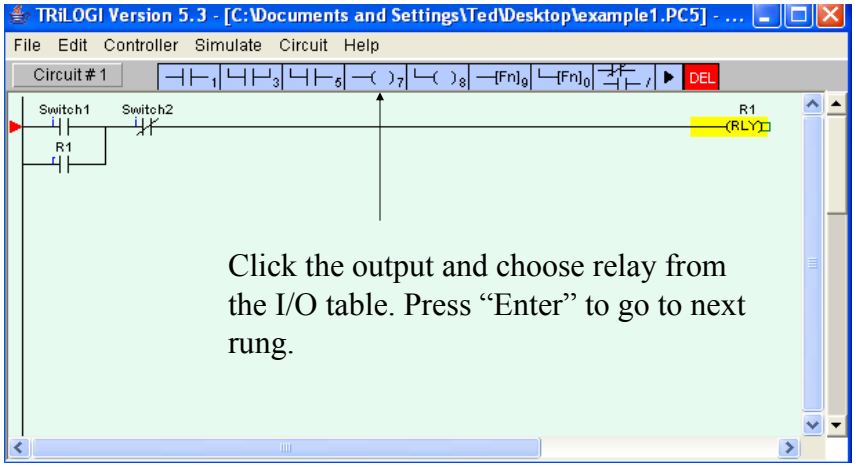
Add an Output



Delete the Output and Change to Relay

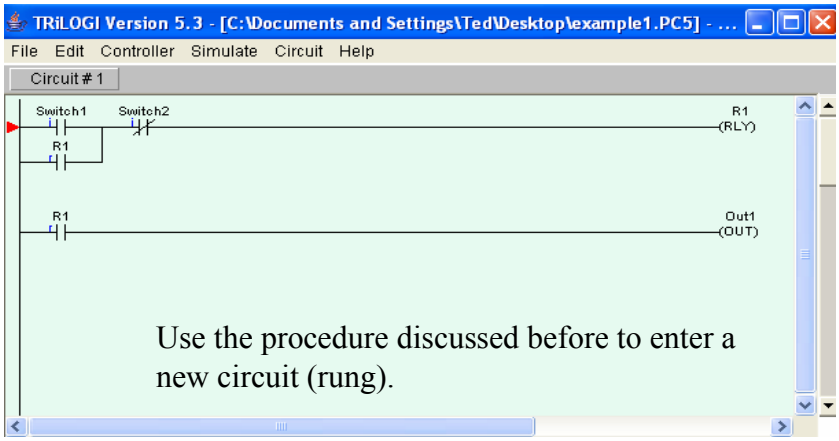


Replace with Relay



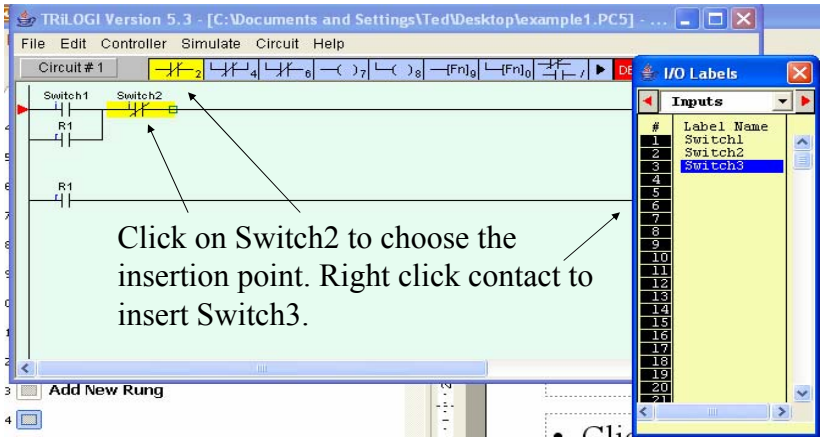
Click the output and choose relay from the I/O table. Press “Enter” to go to next rung.

Add New Rung

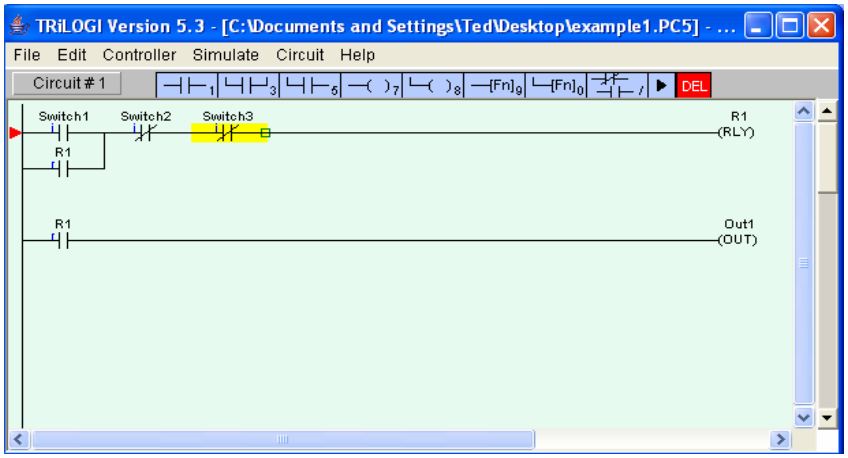


Use the procedure discussed before to enter a new circuit (rung).

Insert a Contact

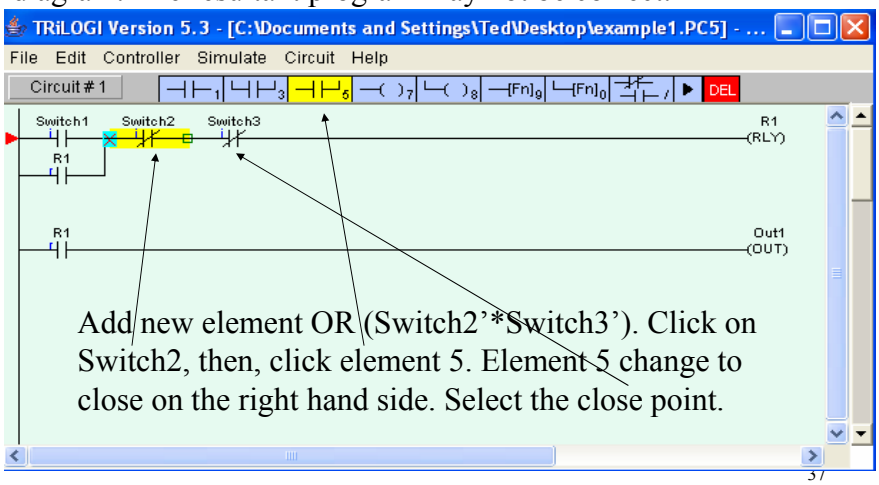


Competed Ladder Diagram



Add OR Condition

Following example is used to show how to edit the ladder diagram. The resultant program may not be correct.



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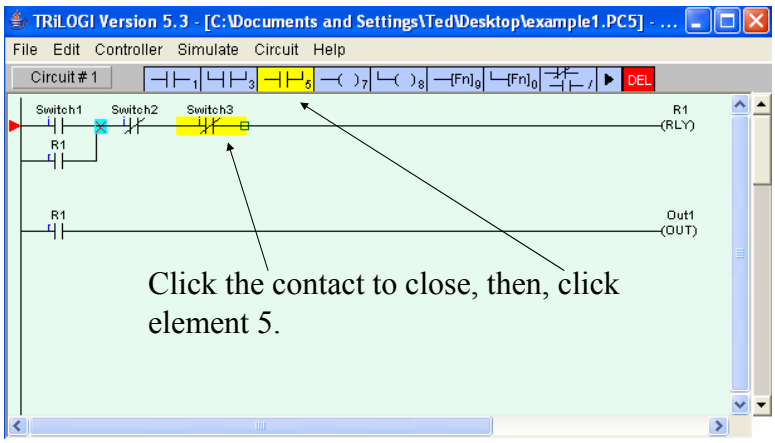
Close the OR Logic



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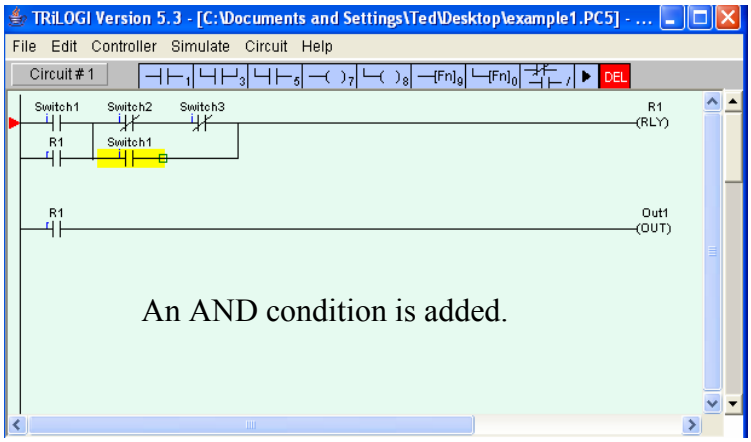
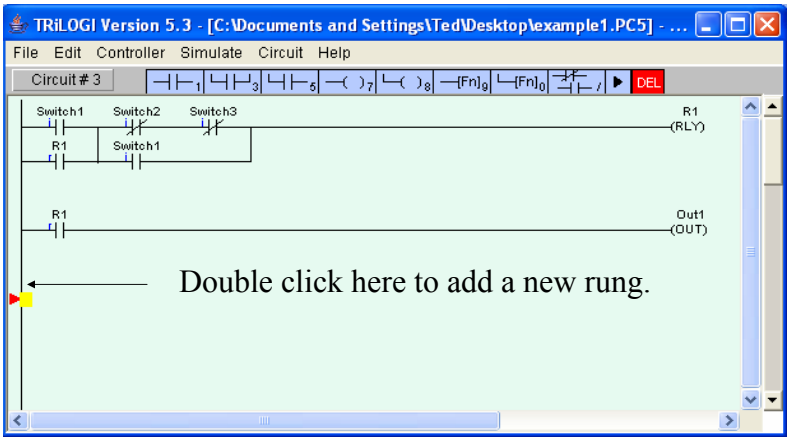
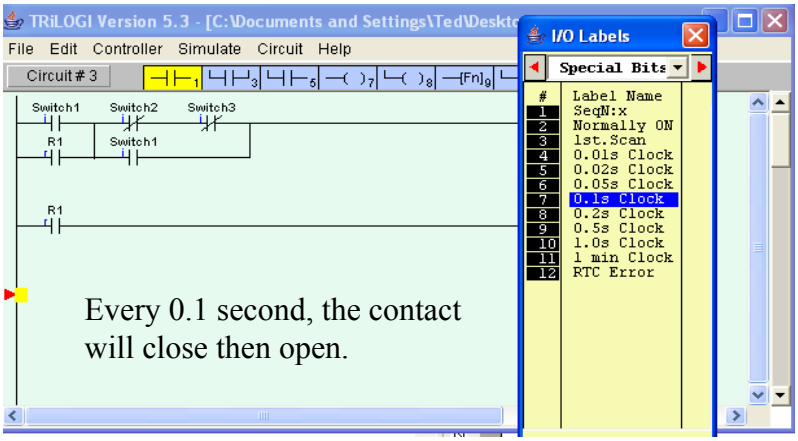
New Element Complete



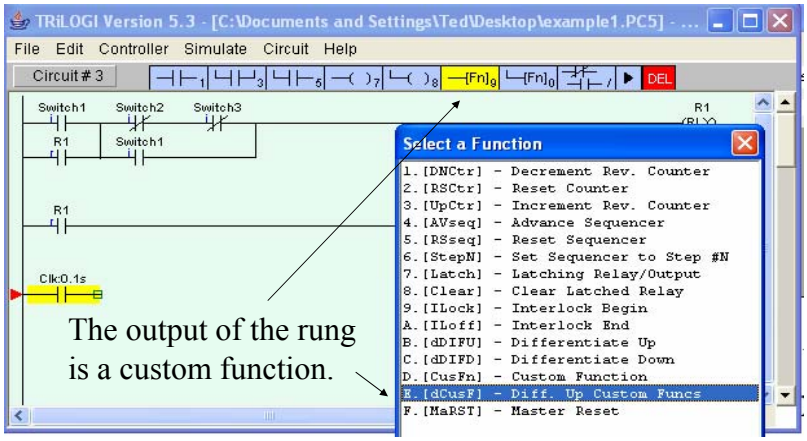
Insert Custom Function



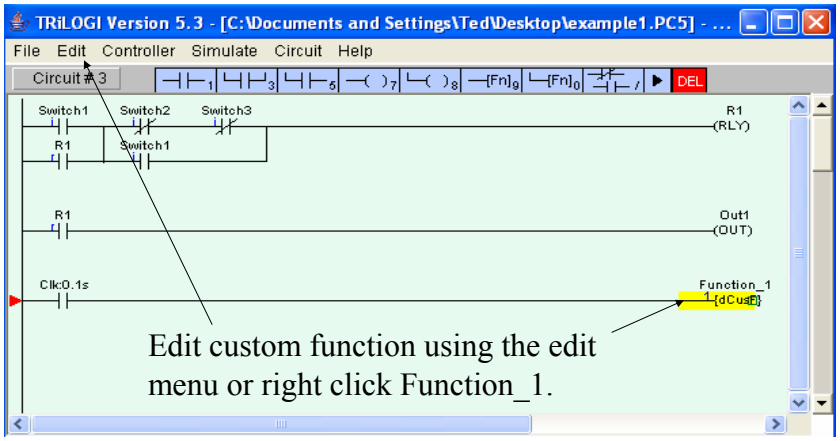
Add a Special Bit 0.1s Pulse



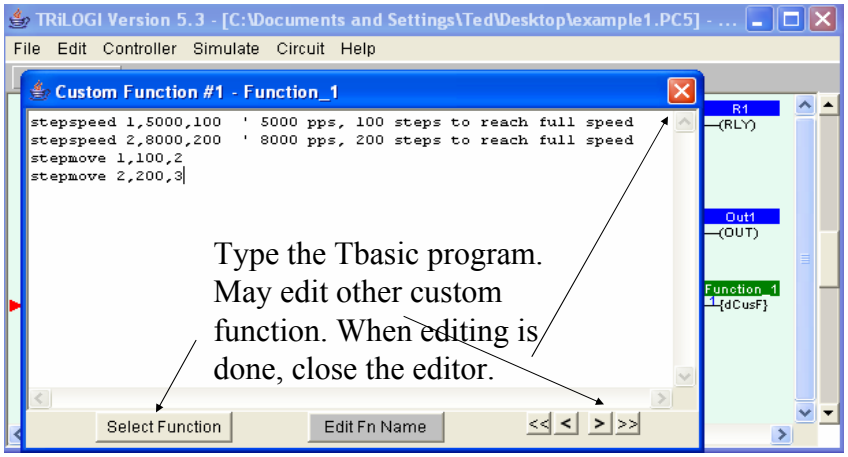
Select Custom Function



Select Delta Custom Function 1

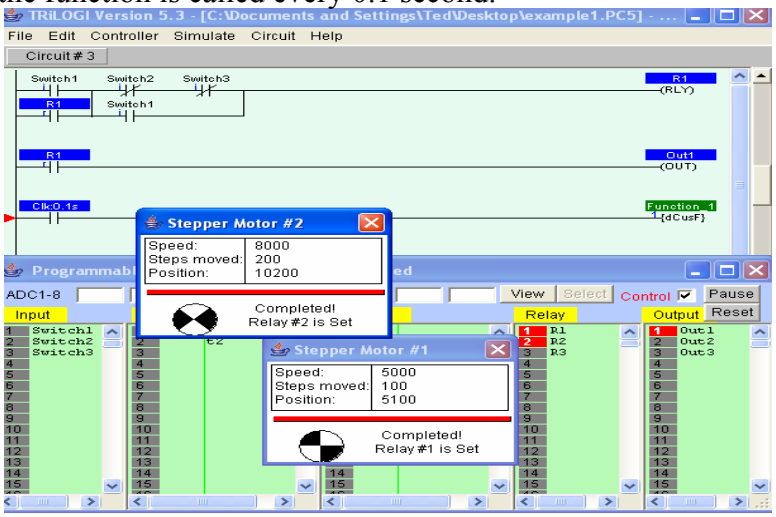


Edit Custom Function

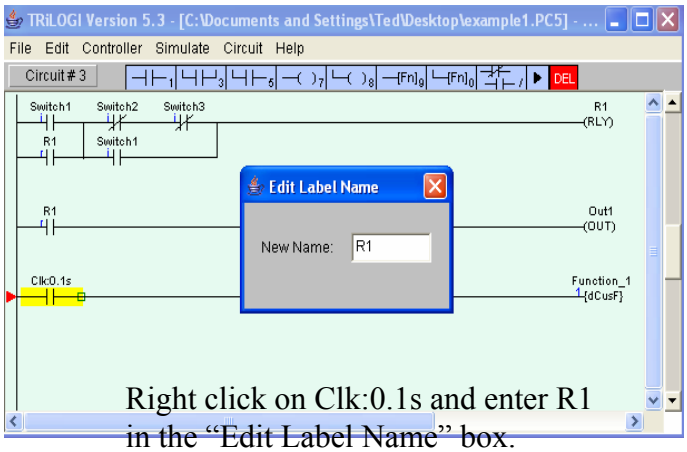


Simulate the Program

This program will run two stepper motors continuously. Since the function is called every 0.1 second.



Replace the Clock with R1



Right click on Clk:0.1s and enter R1 in the "Edit Label Name" box.

Simulate the Modified Program