

A TUTORIAL FOR ISIS SIMULATION

Simulate your assembly code in ISIS

1) Open ISIS. Our first simple project will be to light a LED on some pin of PORTB (for example RB0). We need to add the related components to the schematic project and construct the simulation circuit. In the **Figure-1**, a blank schematic page can be seen.

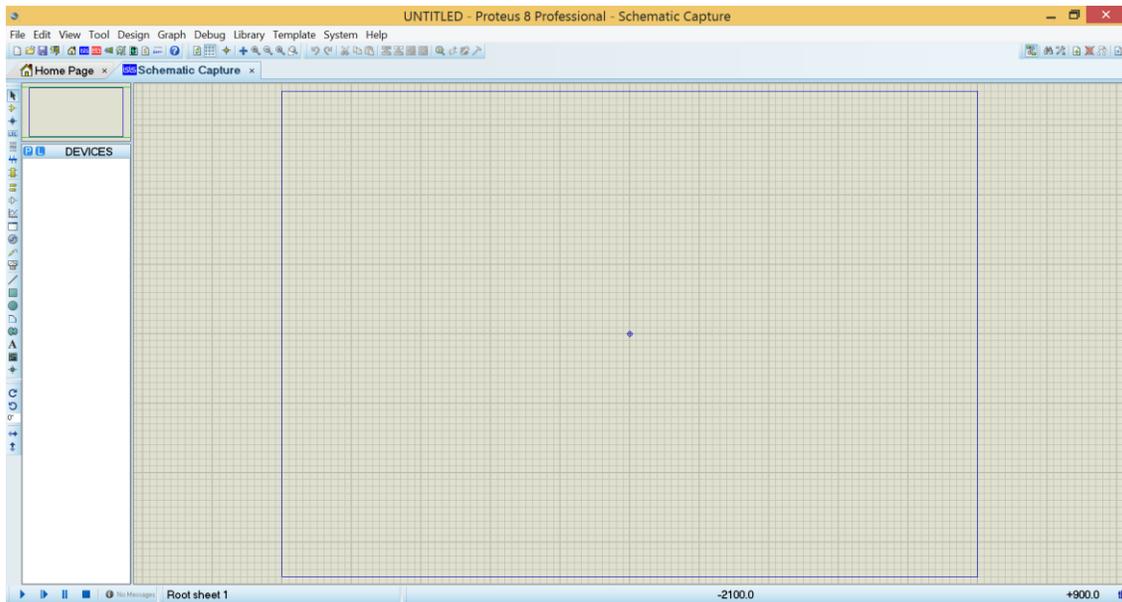


Figure-1

2) Circuit elements can be added from the ISIS libraries. At first click the "Component Mode" icon, **Figure-12** step 1, then click the "P" icon, **Figure-12** step 2, to open the library window.

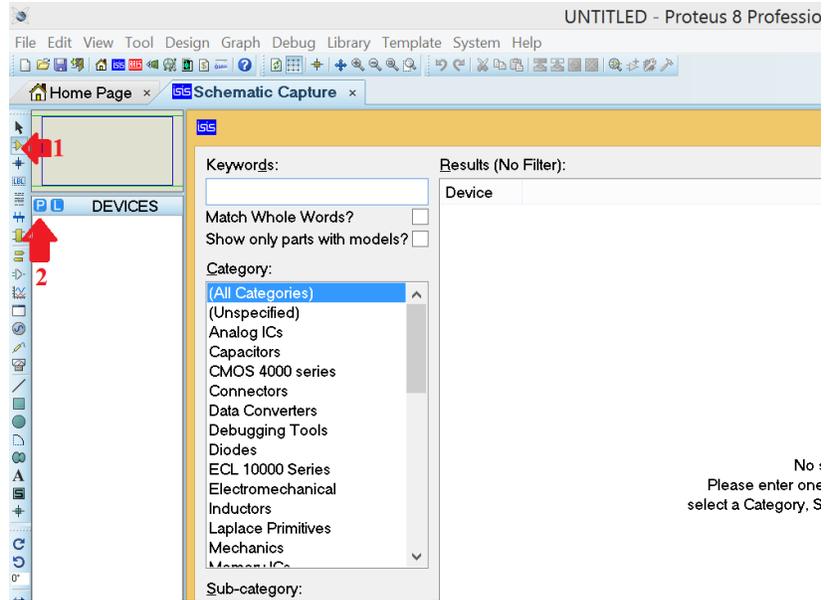


Figure-2

3) Type PIC16F84A, LED-RED, RES step by step then double click for each one. By doing this, these components will be added to the current ISIS project. **Figure-3** shows the operation.

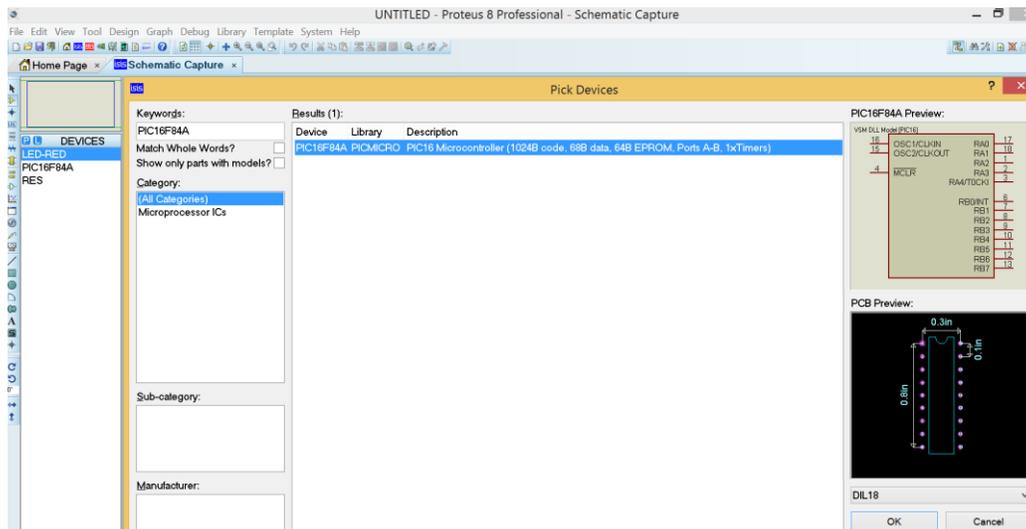


Figure-3

4) As is seen in **Figure-4**, the circuit for the simulation of our assembly code is constructed. The GND object has been taken from the "Terminals Mode" part. It is important to mention that the OSC pins and the MCLR pin are left floating here. In the simulation, there is no need to add them, however, they should be used when constructing the circuit on a breadboard or PCB.

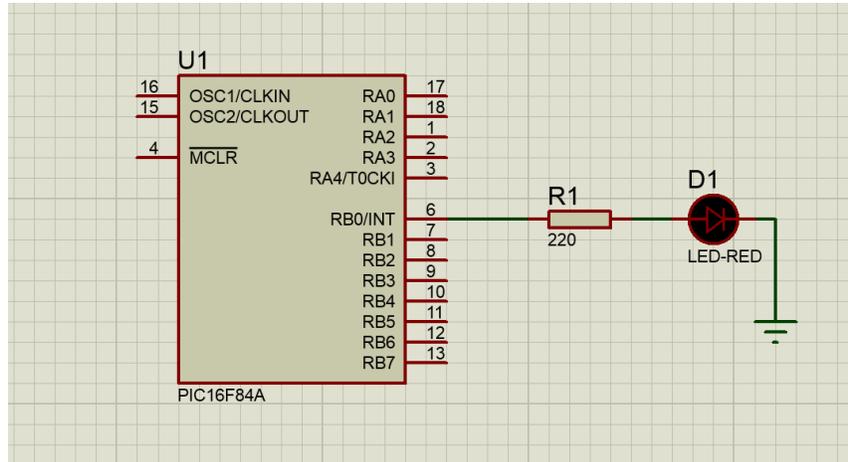


Figure-4

5) The circuit is fully constructed. Next, we need to load our ".hex" file to the PIC and run the simulation. By double clicking on the PIC16F84A IC on ISIS, a new window will be opened. From this window, choose your "main.hex" file from the directory that you have created in MPLAB. In **Figure-5**, the "main.hex" file is added and the clock frequency of the IC is set to 4 MHz. After setting these, press the "OK" button.

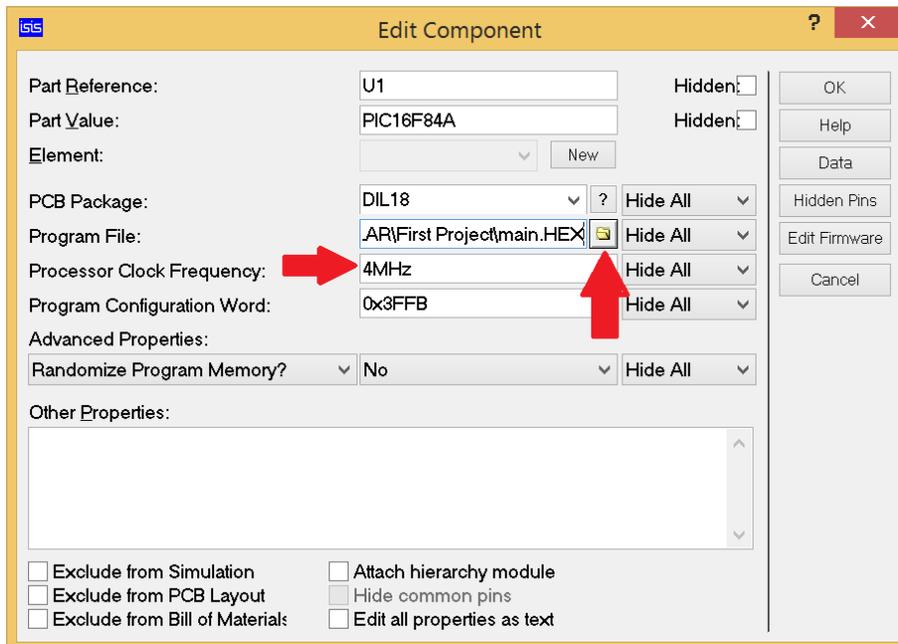


Figure-5

6) Now the Program is set up on the IC. The final step is to run the simulation. Click the play button and see the result, **Figure-6**. If you want any changes in the circuit, firstly you should stop the simulation.

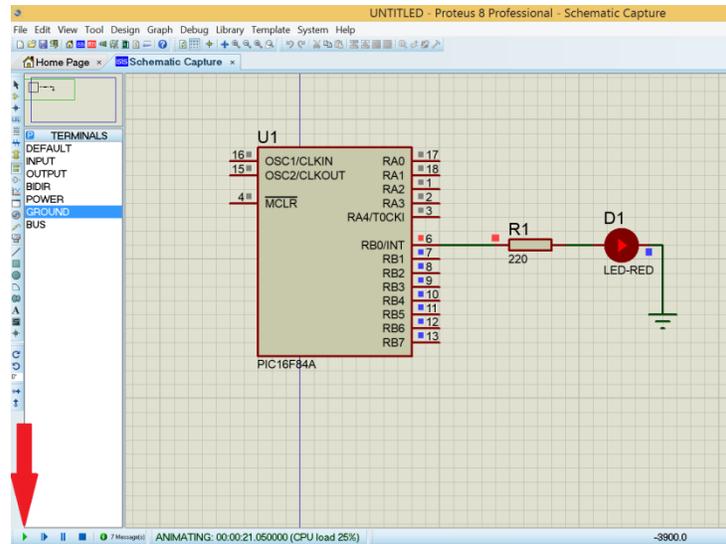


Figure-6

Prepared by A. Çağrı Arlı