EASTERN MEDITERRANEAN UNIVERSITY
COMPUTER ENGINEERING DEPARTMENT
CMPE 223 DIGITAL LOGIC DESIGN-lab 2

Mission:

Within the scope of this laboratory; you will perform and simulate the works given in the section "experimental study".

Experimental Study:

1. Find the truth tables of the functions given below on your notebook.

   i. $F_1(x_1, x_2, x_3, x_4) = x_2 x_3' x_4' + x_1' x_2 x_4 + x_1' x_2 x_3 + x_1 x_2 x_3$

   ii. $F_2(x_1, x_2, x_3, x_4) = (x_1 + x_2 + x_4').(x_2' + x_3 + x_4').(x_1' + x_3 + x_4').(x_1' + x_3' + x_4')$

2.
   a) Draw the "Schematic / Block Diagram" of the above functions using the Quartus software program.
   b) Simulate the project showing the WaveForm in the Quartus program "University program VWF" and show it to the lab assistant. (Note: assign values based on the MSB_LSB bits of the truth table you extracted during the simulation.)
   c) Compare the truth table that you wrote in your notebook with the result of the simulation that Quartus gives you.

Notes:

1. Study the subjects of this lab sheet and prepare well before coming to the laboratory.
2. If a homework is given, you must have done it before coming to the laboratory.
3. You must do the laboratory preparations yourself. You may exchange ideas and share information with your friends, but the last job that comes up should belong to you.

Good luck

Mostafa Ayoubi Mobarhan