

COMPUTER STRUCTURE I – WORKSHOP – PS/2 KEYBOARD

PROFESSOR: EDUARDO ZUREK, PH.D.

SISTEMS ENGINEERING (COMPUTER SCIENCES) DPT. - UNIVERSIDAD DEL NORTE

Implement a system for reading a PS/2 keyboard showing the corresponding codes and characters as follows:

- Show the code generated by the keyboard using LEDs and 7-segment display.
- Show corresponding characters using the LCD display.

The inputs must be taken from a keyboard connected to the Altera DE2 board through the PS/2 port.

As part of the process, the student must develop each one of the following items:

1. List the variables and/or signals that are related with the solution. Include a description of the Pin Planner assignments.
2. Explain the VHDL code of the solution that generate the expected results. Include comments in your VHDL code. Keep your VHDL code as simple as possible.
3. Simulate the solution using ModelSim (or the University Program VWF interface).
4. Implement the solution and test it.

Grading policies:

80 %: Implementation of the solution using the Altera DE2 board.

20 %: Write a report **in English** developing items 1 to 4 described above.

The solution must be original, and it must be developed and implemented by teams with not more than three students.

Any kind of fraud and/or plagiarism will be punished as per the Student regulations.

Solutions NOT received after due date.

BEST WISHES!