EEL 5722C - FPGA Design
Fall 2013
University of Central Florida
Lab Assignment #4

Design and Implement a Verilog module to display PS/2 Keyboard input on a VGA monitor

Objective: Attach the keyboard to the FPGA board. When a numeral key (above the QWERTY row only – not the NumPad) is pressed, display the pressed key's number on a VGA monitor. Pressing the "Enter" key should clear the screen (display a blank screen). Only one character needs to be displayed at a time. Pressing any key other than the number keys or the Enter key should display the character "E". The character should be displayed in the top left corner of the VGA monitor. You are free to choose the color of the font, as long as the character is visible (e.g., do not use a "black" character on a "black" screen).
The font for display is stored in memory. It is described using a .coe file, which you will be provided. Instructions for using the .coe file are provided in the powerpoint slides for the lab.

Write a Verilog program to implement the solution to the above problem.
The Keyboard interface should be a module in and of itself. Use the module to obtain the input (scan code) from the keyboard, and display the pressed numeral on the VGA using

Bonus: allow multiple characters to be displayed together in one line.