Microprocessors Final Project

Due date : 15. 09. 2020 9:00
Demo date: 15. 09. 2020 with the same schedule used for project 1.

In the website;

http://www.marmaralectures.com/reference-for-final-project/

There is code for the Bird CPU, the keypad, 7-segment display, the main module, and the assembler with some missing sections (marked with the remark "to be added").

- Complete the missing sections in the all code given,
- load it into the FPGA kit,
- Connect the keypad and the 7-segment monitor to FPGA.

Write an assembly program in Bird which will turn your hardware into a pocket calculator which is capable of adding and multiplying numbers.

- # key will act as sum (ie, +)
- * key will act as multiplication (ie, *)

There will be no "previlege" in calculations, ie, if you enter 3#2*10 the result will be 50, not 23. Or, in other words, + and * will have the same privilege.

In your code, you must have at least two function calls, "call addit" and "call mult", to perform addition and multiplication after you finish entering a number and press * or #.

Your calculator must read the numbers from the keypad in decimal, but may display them in hexadecimal (extra credit if you also manage to display your results in decimal).

There is an accompanying video which shows how the system you will build should work.