Lab 07 : LCD & External Interrupt

Introduction to Computer Organization

Even 2016/2017 - Universitas Indonesia

In this lab session, we will learn about the use of LCD and external interrupt. Please use the Lab07_configuration.xml as the hapsim configuration for every task below.

TUTORIAL 1 - LCD:

1. Read and understand the assembly code in the test_interrupt.asm file first.
2. Modify the code so the LCD will show the 'POK' string on the first row and 'EZPZ' string on the second row.

TUTORIAL 2 - BUTTON INTERRUPT:

1. Read and understand the assembly code in the test_lcd.asm file first.
2. Implement the 'toggle speed' button with interrupt so the program can change the LED light speed using the button. The program MUST cycle through all of the three delays (DELAY_00, DELAY_01, DELAY_02) given by the program.

EXERCISE - SIMPLE MINI GAME:

1. Replace the delay on the 'STOP' button in the program you have made in TASK 2 so instead of waiting for the delay, the program will print your text you have made in TASK 1 on the LCD.
2. Implement the function that every time the LED light stopped on the 'WIN' marked LED, the LCD will print 'KAMU MENANG' and every time the LED light stopped on the 'LOSE' marked LED, the LCD will print 'KAMU KALAH'.

Save the file as Lab07_[Kode Asdos]_[Nama]_[NPM].asm and submit your .asm file into the submission form given on Scele.