

Ebrahim Simmons - simmoe1 - 400200042

Bilal Yusuf - yusufb1 - 400185626

### **Lab 3 Report**

We created 31 registers to represent the 31 character message. We created a variable to hold each of the 6 letters. To check if 31 inputs are entered, we check to see if the register with index 30 has a value.

#### **Counter**

In order to count which the most pressed key was we introduced a new variable. Using an if statement we increment by 1 for each time the letter is pressed. Then we compare them against each other, and our value letter\_count\_max returns the most pressed key for the later display. However, we still store the number value in our variable max\_value.

#### **Display**

If no keys are pressed we display the message “NO MONITORED KEYS PRESSED”. Otherwise it displays “KEY \_ PRESSED \_ TIMES”. The first blank is the key from our aforementioned letter\_count\_max value, and the second is our max\_value.

#### **Registers**

In the exercise we had 231 total registers. In experiment 4, there were 82 total registers. This is understandable because we introduced 40 new variables in the first always\_ff block, as well as numerous case statements and if statements.