Altay İlker Yiğitel
22203024

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```
#include <stdio.h>
#include <xc.h>

unsigned int i = 0;
void main()
  {
      AD1PCFG = 0xFFFF; // Configure all pins as digital

      TRISA = 0x0000; // Set all A pins as output
      TRISE = 0XFFFF; // Set all E pins as input

      LATA = 0XFFFF; // Set all A pins to 1
      LATE = 0X0000; // Set all E pins to 0

      Delay_ms(1000);
      while (1) {
          if(portEbits.RE0 == 1 && portEbits.RE1 == 1){
              portAbits.RA2 = 1;
              portAbits.RA1 = 1;
          }
          else if(portEbits.RE0 == 1 && portEbits.RE1 == 0) {
              delay_ms(1000);
              portAbits.RA2 = 1;
              portAbits.RA1 = 0;
              for (i = 0; i < 1000; i++){
                      delay_ms(1);
                      if (portEbits.RE0 == 0 && portEbits.RE1 == 0) {
                          portAbits.RA2 = 1;
                          portAbits.RA1 = 1;
                          break;
                      }
              }

          }
          else if(portEbits.RE0 == 0 && portEbits.RE1 == 1) {
              delay_ms(1000);
              portAbits.RA2 = 0;
              portAbits.RA1 = 1;
              for (i = 0; i < 1000; i++){
                      delay_ms(1);
                      if (portEbits.RE0 == 0 && portEbits.RE1 == 0) {
                          portAbits.RA2 = 1;
```

```
                        portAbits.RA1 = 1;
                        break;
                    }
                }
            }
            else{
                continue;
                }

}
}

/*
Attention!
Configuration   for push-button project :

Connect portA to LEDs
Jumpers of portA are : 5V, pull up ( both of the to the left side )

Connect portE to push-buttons
Jumpers of portE are : 3V3, pull up ( top one to right, other to left )

*/

unsigned char binary_pattern[]={0x3F,0x06,0x5B,0x4F,0x66,0x6D,0x7D,0x07,0x7F,0x6F};
unsigned int fib = 1;
unsigned int fib_prev = 1;
unsigned int k = 0;
int main() {
    AD1PCFG = 0xFFFF; // Configure all pins as digital
    DDPCON.JTAGEN = 0; // Disable JTAG interface

    TRISA = 0x0000; // Set all A pins as output
    TRISE = 0X0000; // Set all E pins as output

    while(1) {
        while ( k < fib * 25 ) { // 25 for every 1ms times 4 for digits

            PORTA=binary_pattern[fib / 1000]; // 1000th place
            PORTE=0x01; // Enable 1000th place
            Delay_ms(1);


            PORTA=binary_pattern[(fib % 1000) / 100]; // 100th place
            PORTE=0x02; // Enable 100th place
            Delay_ms(1);
```

```
            PORTA=binary_pattern[(fib % 100) / 10]; // 10th place
            PORTE=0x04;       // Enable 10th place
            Delay_ms(1);


            PORTA=binary_pattern[fib % 10]; // 1st place
            PORTE=0x08; // Enable 1st place
            Delay_ms(1);

            k++;
        }
        fib += fib_prev;
        fib_prev = fib - fib_prev;
        k = 0;
    }
}
```