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Student Project

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//Objective
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STORE COMBINATION: When the user pushes the button in a certain combination,
the program will read the input and store the combination. Given a time
interval, the program allows a window of time for button inputs. The
combination to be read will be a 3 digit code. An LED will light up every
time the button is pressed to show that a value has been correctly read.


//Code
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#include <stdio.h>
#include <wiringPi.h>

// LED Pin - wiringPi pin 0 is BCM_GPIO 17.
// Switch Pin - wiringPi pin 1 is BCM_GPIO 18.
// Some code implemented from WiringPi examples (such as defining LED/SWITCH,
etc)
/* I attempted to use the waitForInterrupt methods (both ISR and the old
method)to read consecutive switch entries
   but was unsuccessful. There is some leftover commented code on the bottom
*/
// The code works as intended, although if you leave the button pressed for a
little too long, bouncing occurs, but rarely

#define     LED   0
#define SWITCH  1
#define COUNT_KEY 0

void storeNum(int x)
{
    if(!digitalRead(SWITCH))
    {
        digitalWrite(LED, HIGH);
        delay(250);
        digitalWrite(LED, LOW);
        x++;
    }
    delay(250);
}

int main(void)
{
    printf ("STORE COMBINATION\n") ;
    printf ("--------------------\n");
    wiringPiSetup () ;
    pinMode (LED, OUTPUT) ;
    pinMode (SWITCH, INPUT);
    digitalWrite(SWITCH, HIGH);
    digitalWrite(LED, LOW);
    int i = 0;
    int counter = 0;
```

```
    int combo[] = {0, 0, 0};

    for(i=0; i<3; i++)
    {
        printf("Password digit #%d?\n", i+1);
        delay(500);
        int j = 0;
        for(j=0; j<10; j++)
            storeNum(counter);
        printf("Number of presses read: %d\n", counter);
        combo[i] = counter;
        delay(1500);
    }
    printf ("--------------------\n");
    printf("Combo is %d - %d - %d\n", combo[0], combo[1], combo[2]);

    return 0;

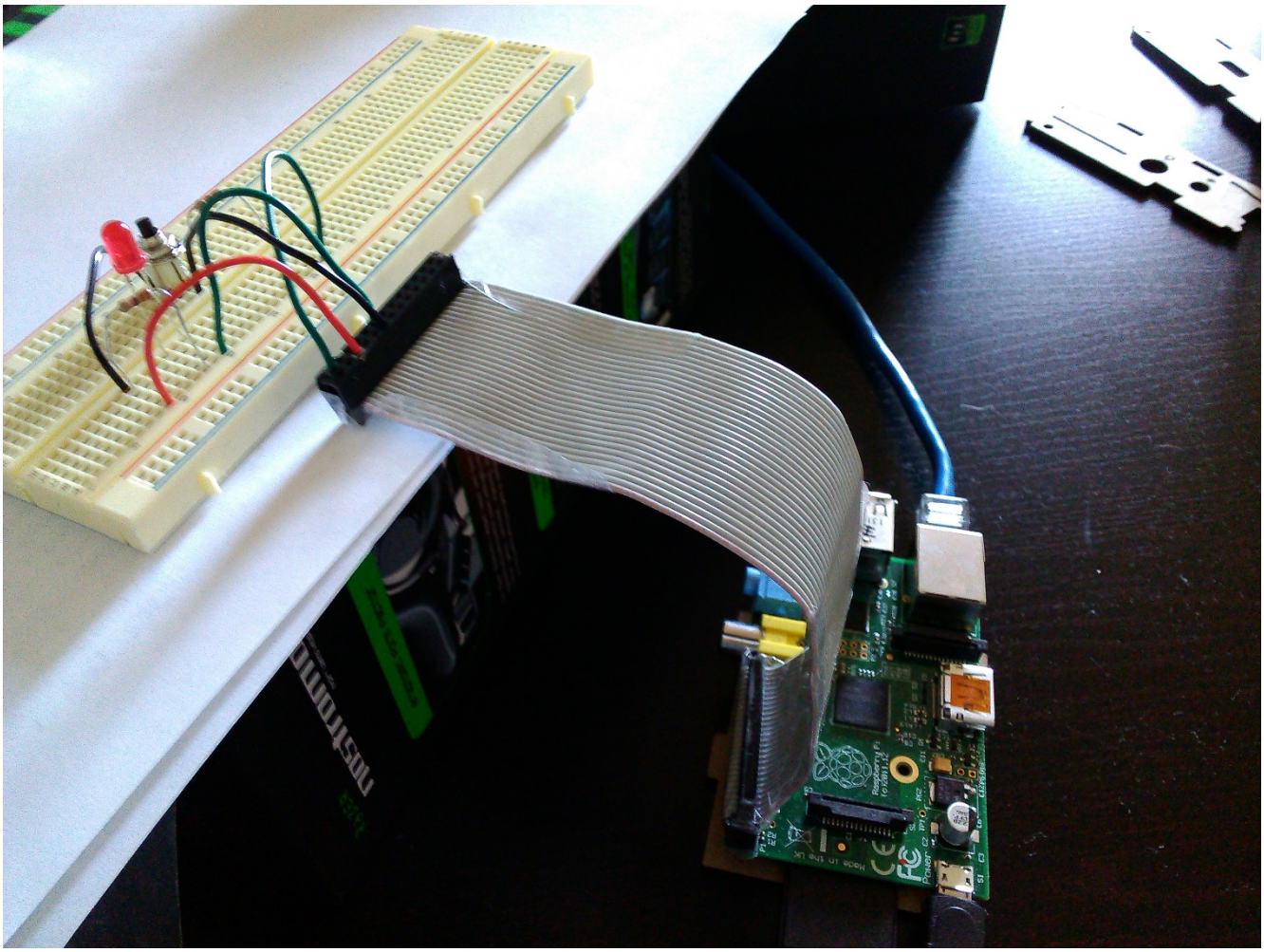
    /* for(i=0; i<3; i++)
     {
       printf("Input %d\n", i);
       delay(1000);
       printf("Waiting... "); fflush(stdout);

       while(counter == lastCounter)
       {
    piLock(COUNT_KEY);
    counter = globalCounter;
    piUnlock(COUNT_KEY);
    delay(500);
       }

       printf("Counter is %d\n", counter);
       pass[i] = counter;
       lastCounter = counter;
       delay(2000);
     }*/

}
```

//RPi Setup



```
// Printout
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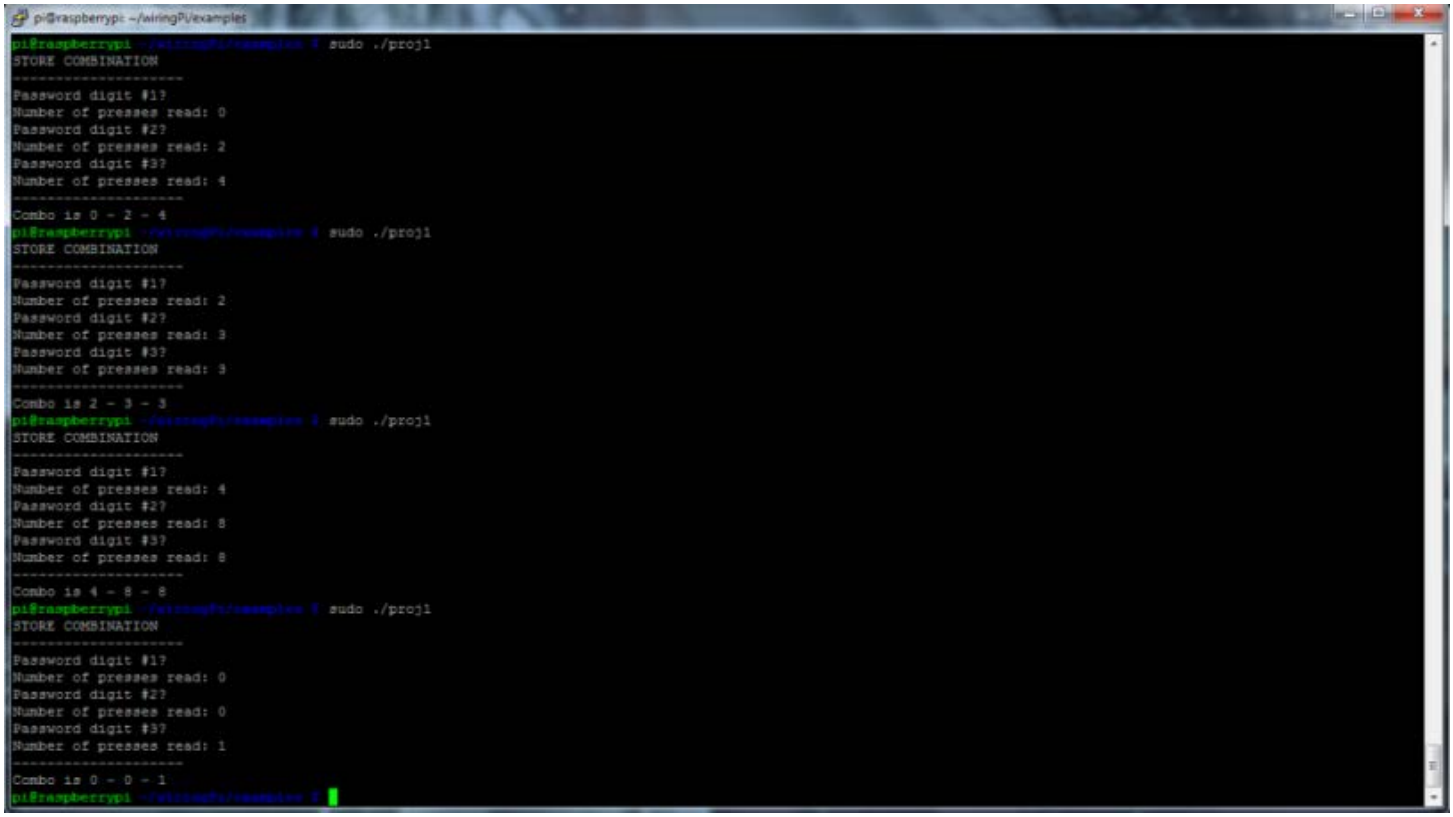
pi@raspberrypi: ~/wiringPi/examples
pi@raspberrypi ~/wiringPi/examples $ sudo ./proj1
STORE COMBINATION

Password digit #1?
Number of presses read: 0
Password digit #2?
Number of presses read: 2
Password digit #3?
Number of presses read: 4

Combo is 0 - 2 - 4
pi@raspberrypi ~/wiringPi/examples $ sudo ./proj1
STORE COMBINATION

Password digit #1?
Number of presses read: 2
Password digit #2?
Number of presses read: 3
Password digit #3?
Number of presses read: 3

Combo is 2 - 3 - 3
pi@raspberrypi ~/wiringPi/examples $ sudo ./proj1
STORE COMBINATION

Password digit #1?
Number of presses read: 4
Password digit #2?
Number of presses read: 8
Password digit #3?
Number of presses read: 8

Combo is 4 - 8 - 8
pi@raspberrypi ~/wiringPi/examples $ sudo ./proj1
STORE COMBINATION

Password digit #1?
Number of presses read: 0
Password digit #2?
Number of presses read: 0
Password digit #3?
Number of presses read: 1

Combo is 0 - 0 - 1
pi@raspberrypi ~/wiringPi/examples $