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1
2  /*****
3  * By CCSC compiler
4  * File Name: picp28lcd_demo.c
5  * Description: test switch, generate prime number, test led
6  * For PIC-P28-LCD
7  * RA5 switch
8  * RB0 LED
9  * RB4-7 data for LCD
10 * RB3 RS
11 * RB2 STB
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15 *****/
16 //
17 #include <16f886.h>
18 #fuses HS, NOWDT, MCLR, NOBROWNOUT, PUT, NOLVP, NOPROTECT
19 #fuses NOCPD
20 #use delay(CLOCK = 2000000)
21 #use rs232(BAUD = 9600, XMIT = PIN_A2, RCV = PIN_A3)
22 #include <math.h>
23
24 #define Bmode 0x00 //port B all output
25 #define Amode 0xFF //port A all input
26 #define Cmode 0xFF //port C all input
27
28 #byte db = 6 //6 is port B address
29
30 ////////// Port define and link LCD library
31 #define rs PIN_B3 //Register Select
32 #define stb PIN_B2 //Strobe or Enable Signal
33 #include <lcd_lib_no_ready.c>
34 //////////
35 int pre_start = 1;
36 //
37 // only for test
38 #separate
39 void test_serial()
40 {
41     int cmdnd;
42     printf("\n\rPress Any Key= ");
43     cmdnd=getc();
44     printf("\n\rInput= ");
45     putc(cmdnd);
46 }
47 //
48 // only for test
49 #separate
50 void test_switch()
51 {
52     if(input(PIN_A5)==0)
53     {
54         delay_ms(50);
55         if(input(PIN_A5)==0)
56         {
57             if(pre_start==1)
58             {
59                 output_toggle(PIN_B0);
60                 pre_start=0;
61             }
62         }
63     }
64     else pre_start=1;
65 }
66 //
67 // prime number
68 #separate
69 void test_prime()
70 {
71     long i, j, k, m, n;
72     k = 2;
73     lcd cmd(0xC0);
74     printf("%lu ", k );
75     printf(lcd_data, "%lu ", k );
76     lcd cmd(0xC0);
77     printf("%lu ", k+1 );
78     printf(lcd_data, "%lu ", k+1 );
79     n=3;
80     for( i = 5 ; i <= 65000 ; i = i+2 )

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81     {
82         m = sqrt(i);
83         for( j = 3; j <= m; j = j+2)
84         {
85             if (i%j == 0) break;
86         }
87         if (i%j != 0)
88         {
89             printf("%lu ", i );
90             lcd_cmd(0xC0);
91             printf(lcd_data, "p= %lu ", i );
92             lcd_cmd(0x80);
93             printf(lcd_data, "n= %lu ", n );
94             n++;
95             output_toggle(PIN_B0);
96             while(input(PIN_A4) == 0) {}
97             delay_ms(300);
98         }
99     }
100     lcd_clear();          //clear display
101 }
102 //
103 //
104 void main()
105 {
106     output_B(0x00);
107     set_tris_a(Amode);    //all input
108     set_tris_b(Bmode);    //all output
109     set_tris_c(Cmode);    //all input except C0
110     //
111     //use fast io(A)
112     //use fast_io(B)
113     //use fast_io(C)
114     //
115     //
116     lcd_init();           //initialize LCD
117     lcd_clear();          //clear display
118     lcd_data("MYCOMKITS.com");
119     delay_ms(500);
120     lcd_cmd(0x80);
121     lcd_data("Get prime number!");
122     lcd_cmd(0x0C);        //blink and cursur off
123     lcd_cmd(0xC0);
124     lcd_data("Press Start");
125     //
126     while(1)
127     {
128         if (input(PIN_A4) == 0) // start
129         {
130             delay_ms(50);
131             if (input(PIN_A4) == 0)
132             {
133                 while(1)
134                 {
135                     lcd_clear();
136                     lcd_cmd(0x80);
137                     lcd_data("Get prime number!");
138                     delay_ms(1000);
139                     lcd_clear();
140                     test_prime();
141                     //delay_ms(1000);
142                 }
143             }
144         }
145     }
146 }
147

```