



UNIVERSIDAD POLITÉCNICA
DE LA ZONA METROPOLITANA DE GUADALAJARA

LCD

MOISES EMANUEL MARTINEZ NOYOLA

ING. MECATRONICA

PROGRAMACION DE SISTEMAS DE EMBEBIDOS

Codigo en lenguaje C

```
10  ~ -----
11  */
12  #include "project.h"
13
14  int main(void)
15  {
16      uint8_t
17      a = 0;
18      uint8_t
19      b = 0;
20      uint8_t
21      c = 0;
22      uint8_t
23      d = 0;
24      uint8_t
25      e = 0;
26      uint8_t
27      counter = 0;
28      CyGlobalIntEnable; /* Enable global interrupts. */
29
30      /* Place your initialization/startup code here (e.g. MyInst_Start()) */
31      LCD_Start();
32      LCD_ClearDisplay();
33      LCD_Position(0,5);
34      /*LCD_PrintString("Home");*/
35      for(;;)
36      {
37          a=Sw1_Read()*1;
38          b=Sw2_Read()*2;
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```
40          d=Sw4_Read()*8;
41          e=Sw5_Read()*16;
42          counter = 0;
43          counter = counter + a + b + c + d + e;
44          switch(counter){
45              case 0:{
46                  LCD_ClearDisplay();
47                  LCD_Position(0,5);
48                  LCD_Position(1,4);
49                  LCD_PrintString("Moises Noyola");
50                  CyDelay(1000);
51              }
52              break;
53              case 1:{
54                  LCD_ClearDisplay();
55                  LCD_Position(1,6);
56                  LCD_PrintNumber(counter);
57                  LCD_Position(0,5);
58                  LCD_PrintString("Uno");
59                  CyDelay(1000);
60              }
61              break;
62              case 2:{
63                  LCD_ClearDisplay();
64                  LCD_Position(1,6);
65                  LCD_PrintNumber(counter);
66                  LCD_Position(0,5);
67                  LCD_PrintString("Dos");
68                  CyDelay(1000);
```

```

70 break;
71 case 3:{
72     LCD_ClearDisplay();
73     LCD_Position(1,6);
74     LCD_PrintNumber(counter);
75     LCD_Position(0,5);
76     LCD_PrintString("Tres");
77     CyDelay(1000);
78 }
79 break;
80 case 4:{
81     LCD_ClearDisplay();
82     LCD_Position(1,6);
83     LCD_PrintNumber(counter);
84     LCD_Position(0,5);
85     LCD_PrintString("Cuatro");
86     CyDelay(1000);
87 }
88 break;
89 case 5:{
90     LCD_ClearDisplay();
91     LCD_Position(1,6);
92     LCD_PrintNumber(counter);
93     LCD_Position(0,5);
94     LCD_PrintString("Cinco");
95     CyDelay(1000);
96 }
97 break;
98 case 6:{
99     LCD_Position(1,6);
100     LCD_PrintNumber(counter);
101     LCD_Position(0,5);
102     LCD_PrintString("Seis");
103     CyDelay(1000);
104 }
105 break;
106 case 7:{
107     LCD_ClearDisplay();
108     LCD_Position(1,6);
109     LCD_PrintNumber(counter);
110     LCD_Position(0,5);
111     LCD_PrintString("Siete");
112     CyDelay(1000);
113 }
114 break;
115 case 8:{
116     LCD_ClearDisplay();
117     LCD_Position(1,6);
118     LCD_PrintNumber(counter);
119     LCD_Position(0,5);
120     LCD_PrintString("Ocho");
121     CyDelay(1000);
122 }
123 break;
124 case 9:{
125     LCD_ClearDisplay();
126     LCD_Position(1,6);
127     LCD_PrintNumber(counter);
128

```

Start Line	End Line	Code
130		LCD_PrintString("Nueve");
131		CyDelay(1000);
132		}
133		break;
134		case 10:{
135		LCD_ClearDisplay();
136		LCD_Position(1,6);
137		LCD_PrintNumber(counter);
138		LCD_Position(0,5);
139		LCD_PrintString("Diez");
140		CyDelay(1000);
141		}
142		break;
143		case 11:{
144		LCD_ClearDisplay();
145		LCD_Position(1,6);
146		LCD_PrintNumber(counter);
147		LCD_Position(0,5);
148		LCD_PrintString("Once");
149		CyDelay(1000);
150		}
151		break;
152		case 12:{
153		LCD_ClearDisplay();
154		LCD_Position(1,6);
155		LCD_PrintNumber(counter);
156		LCD_Position(0,5);
157		LCD_PrintString("Doce");
158		CyDelay(1000);
130		LCD_PrintString("Nueve");
131		CyDelay(1000);
132		}
133		break;
134		case 10:{
135		LCD_ClearDisplay();
136		LCD_Position(1,6);
137		LCD_PrintNumber(counter);
138		LCD_Position(0,5);
139		LCD_PrintString("Diez");
140		CyDelay(1000);
141		}
142		break;
143		case 11:{
144		LCD_ClearDisplay();
145		LCD_Position(1,6);
146		LCD_PrintNumber(counter);
147		LCD_Position(0,5);
148		LCD_PrintString("Once");
149		CyDelay(1000);
150		}
151		break;
152		case 12:{
153		LCD_ClearDisplay();
154		LCD_Position(1,6);
155		LCD_PrintNumber(counter);
156		LCD_Position(0,5);
157		LCD_PrintString("Doce");
158		CyDelay(1000);

```

130         LCD_PrintString("Nueve");
131         CyDelay(1000);
132     }
133     break;
134     case 10:{
135         LCD_ClearDisplay();
136         LCD_Position(1,6);
137         LCD_PrintNumber(counter);
138         LCD_Position(0,5);
139         LCD_PrintString("Diez");
140         CyDelay(1000);
141     }
142     break;
143     case 11:{
144         LCD_ClearDisplay();
145         LCD_Position(1,6);
146         LCD_PrintNumber(counter);
147         LCD_Position(0,5);
148         LCD_PrintString("Once");
149         CyDelay(1000);
150     }
151     break;
152     case 12:{
153         LCD_ClearDisplay();
154         LCD_Position(1,6);
155         LCD_PrintNumber(counter);
156         LCD_Position(0,5);
157         LCD_PrintString("Doce");
158         CyDelay(1000);
220         LCD_Position(0,3);
221         LCD_PrintString("Diecinueve");
222         CyDelay(1000);
223     }
224     break;
225     case 20:{
226         LCD_ClearDisplay();
227         LCD_Position(1,6);
228         LCD_PrintNumber(counter);
229         LCD_Position(0,5);
230         LCD_PrintString("Veinte");
231         CyDelay(1000);
232     }
233     break;
234     case 21:{
235         LCD_ClearDisplay();
236         LCD_Position(1,6);
237         LCD_PrintNumber(counter);
238         LCD_Position(0,3);
239         LCD_PrintString("Veintiuno");
240         CyDelay(1000);
241     }
242     break;
243     case 22:{
244         LCD_Position(1,6);
245         LCD_PrintNumber(counter);
246         LCD_Position(0,3);
247         LCD_PrintString("Veintidos");
248         CyDelay(1000);

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250 break;
251 case 23:{
252     LCD_ClearDisplay();
253     LCD_Position(1,6);
254     LCD_PrintNumber(counter);
255     LCD_Position(0,3);
256     LCD_PrintString("Veintitres");
257     CyDelay(1000);
258 }
259 break;
260 case 24:{
261     LCD_ClearDisplay();
262     LCD_Position(1,6);
263     LCD_PrintNumber(counter);
264     LCD_Position(0,3);
265     LCD_PrintString("Veinticuatro");
266     CyDelay(1000);
267 }
268 break;
269 case 25:{
270     LCD_ClearDisplay();
271     LCD_Position(1,6);
272     LCD_PrintNumber(counter);
273     LCD_Position(0,3);
274     LCD_PrintString("Veinticinco");
275     CyDelay(1000);
276 }
277 break;
278 case 26:{

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```

280     LCD_Position(1,6);
281     LCD_PrintNumber(counter);
282     LCD_Position(0,3);
283     LCD_PrintString("Veintiseis");
284     CyDelay(1000);
285 }
286 break;
287 case 27:{
288     LCD_ClearDisplay();
289     LCD_Position(1,6);
290     LCD_PrintNumber(counter);
291     LCD_Position(0,3);
292     LCD_PrintString("Veintisiete");
293     CyDelay(1000);
294 }break;
295 case 28:{
296     LCD_ClearDisplay();
297     LCD_Position(1,6);
298     LCD_PrintNumber(counter);
299     LCD_Position(0,3);
300     LCD_PrintString("Veintiocho");
301     CyDelay(1000);
302 }break;
303 case 29:{
304     LCD_ClearDisplay();
305     LCD_Position(1,6);
306     LCD_PrintNumber(counter);
307     LCD_Position(0,3);
308     LCD_PrintString("Veintinueve");

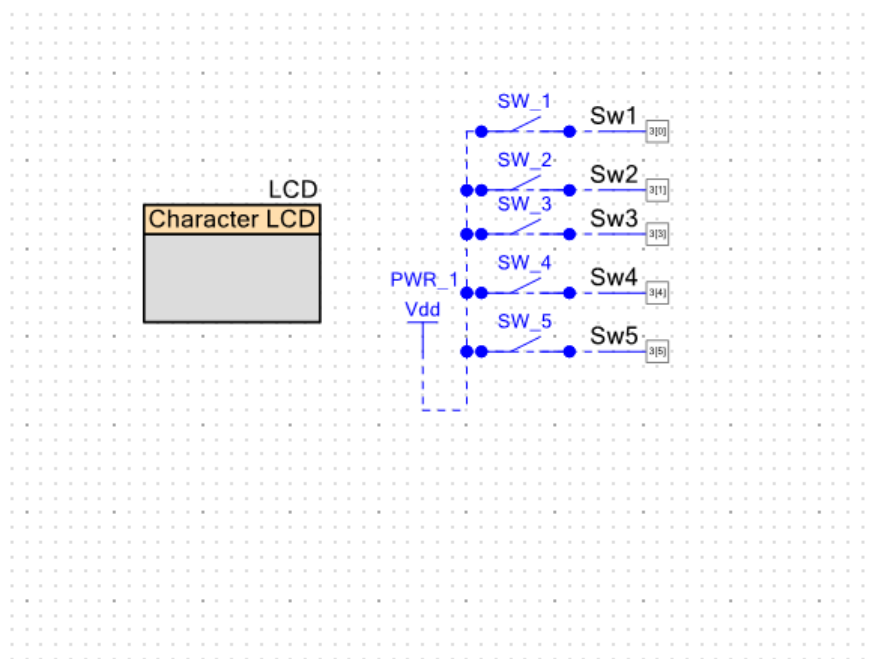
```

```

304 LCD_ClearDisplay();
305 LCD_Position(1,6);
306 LCD_PrintNumber(counter);
307 LCD_Position(0,3);
308 LCD_PrintString("Veintinueve");
309 CyDelay(1000);
310 }break;
311 case 30:{
312     LCD_ClearDisplay();
313     LCD_Position(1,6);
314     LCD_PrintNumber(counter);
315     LCD_Position(0,5);
316     LCD_PrintString("Treinta");
317     CyDelay(1000);
318 }break;
319 case 31:{
320     LCD_ClearDisplay();
321     LCD_Position(1,6);
322     LCD_PrintNumber(counter);
323     LCD_Position(0,3);
324     LCD_PrintString("Treintauno");
325     CyDelay(1000);
326 }break;
327 }
328 }
329 }
330
331 /* [] END OF FILE */
332

```

TopDesing.



Circuito en físico



Conclusiones.

Con esta práctica aprendimos el funcionamiento de un LCD, controlado desde la psoc. En realidad es muy practica la psoc, es mas sencilla y barata que la raspberry .