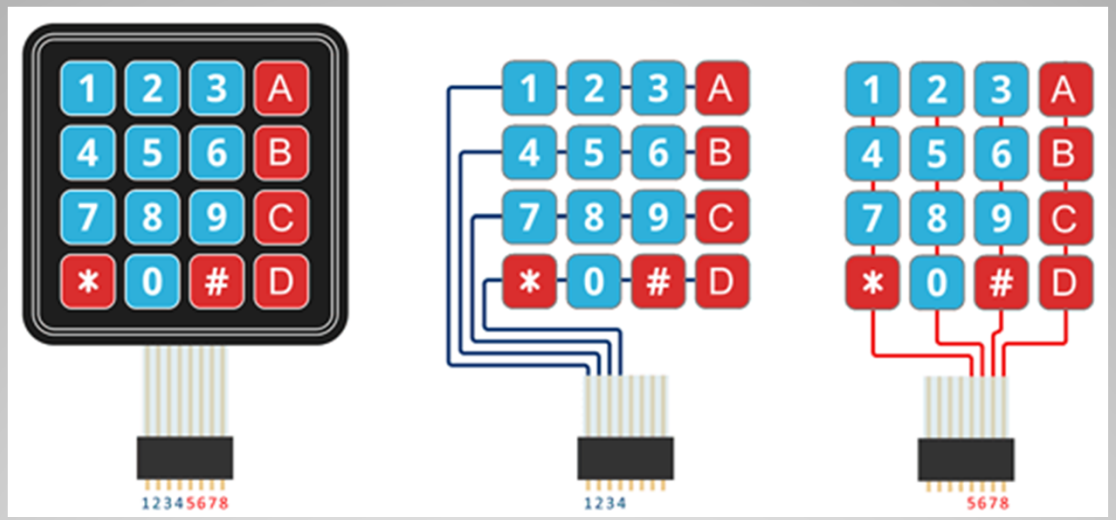
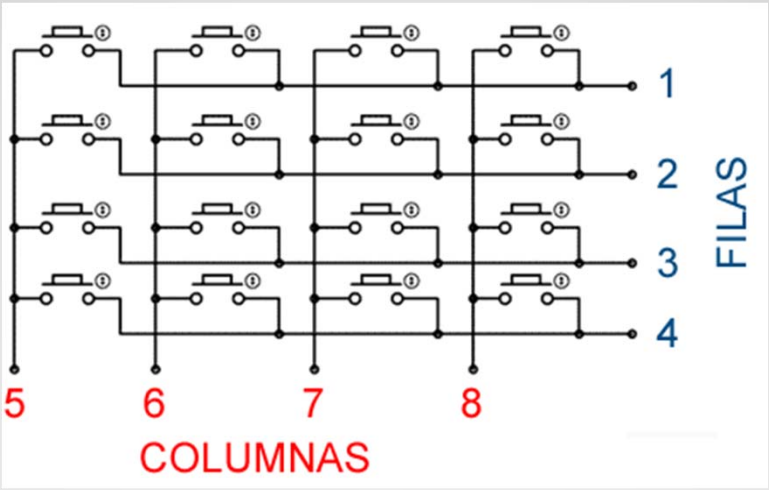
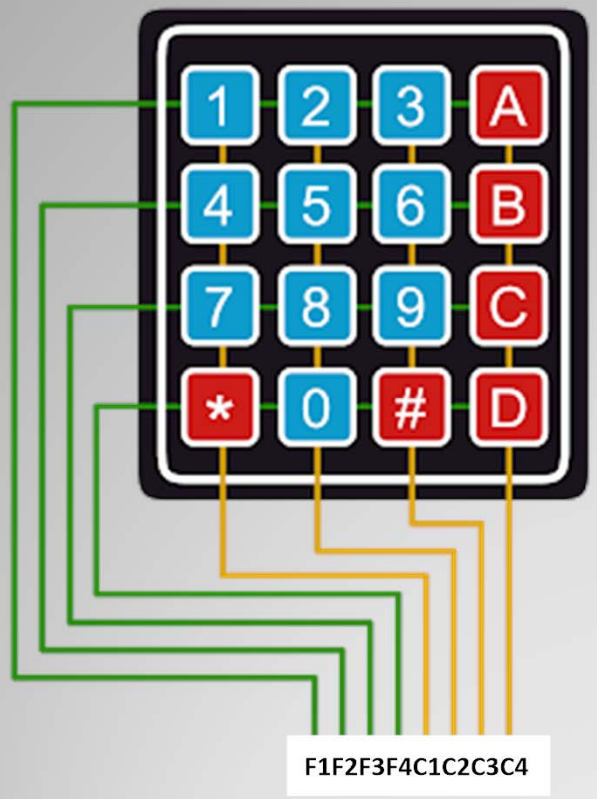
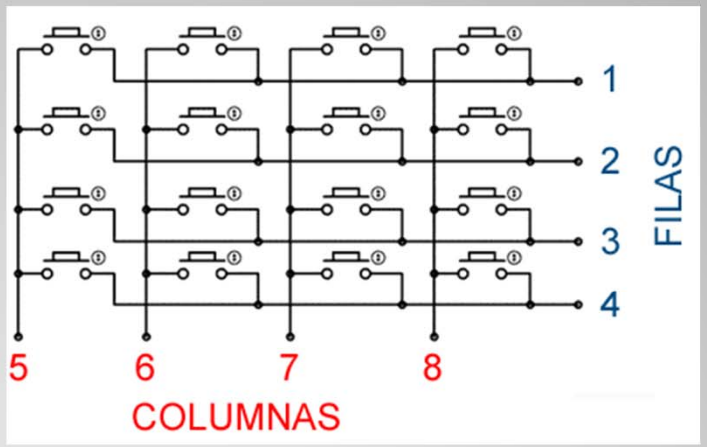
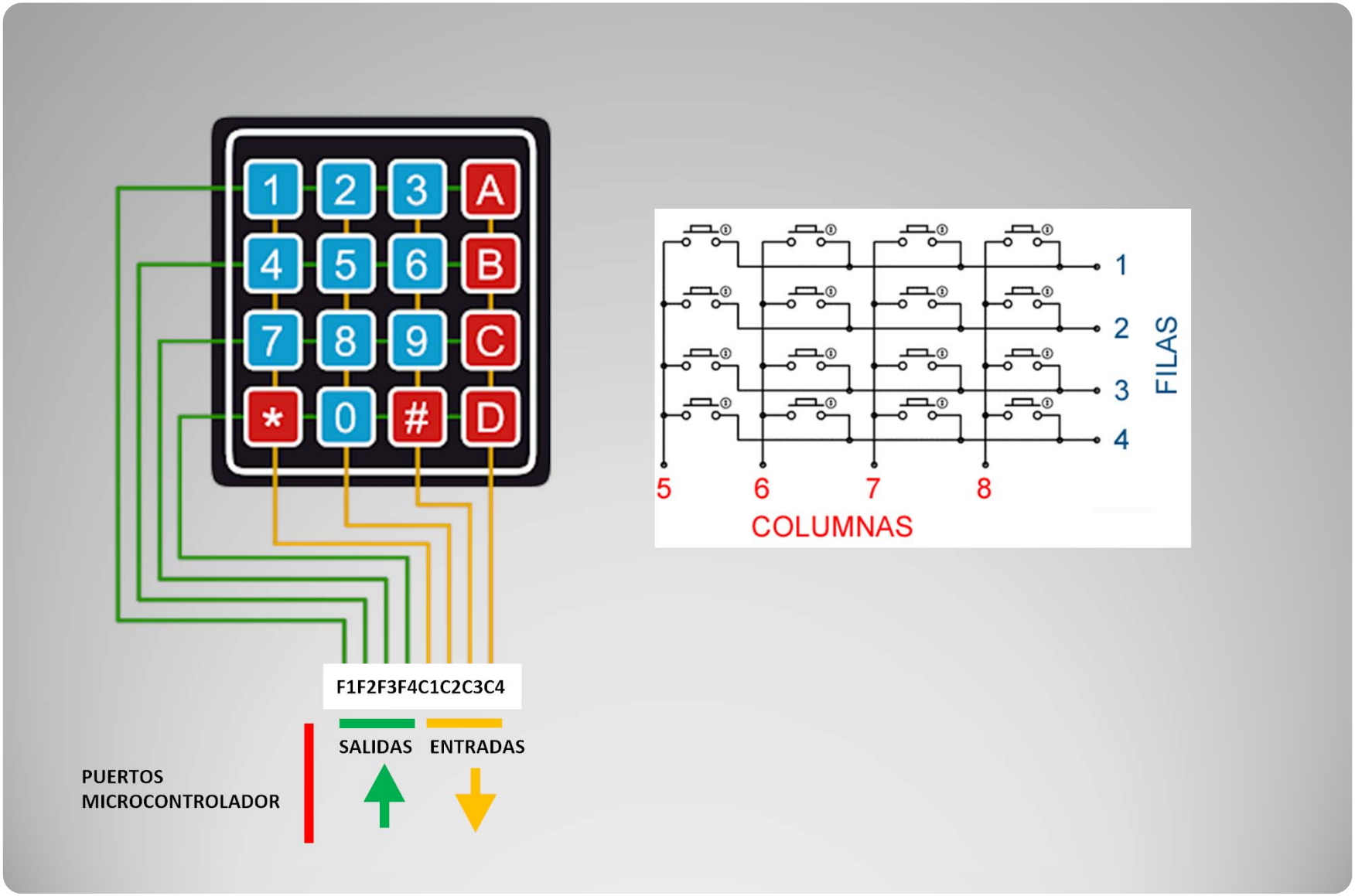
Teclado Matricial

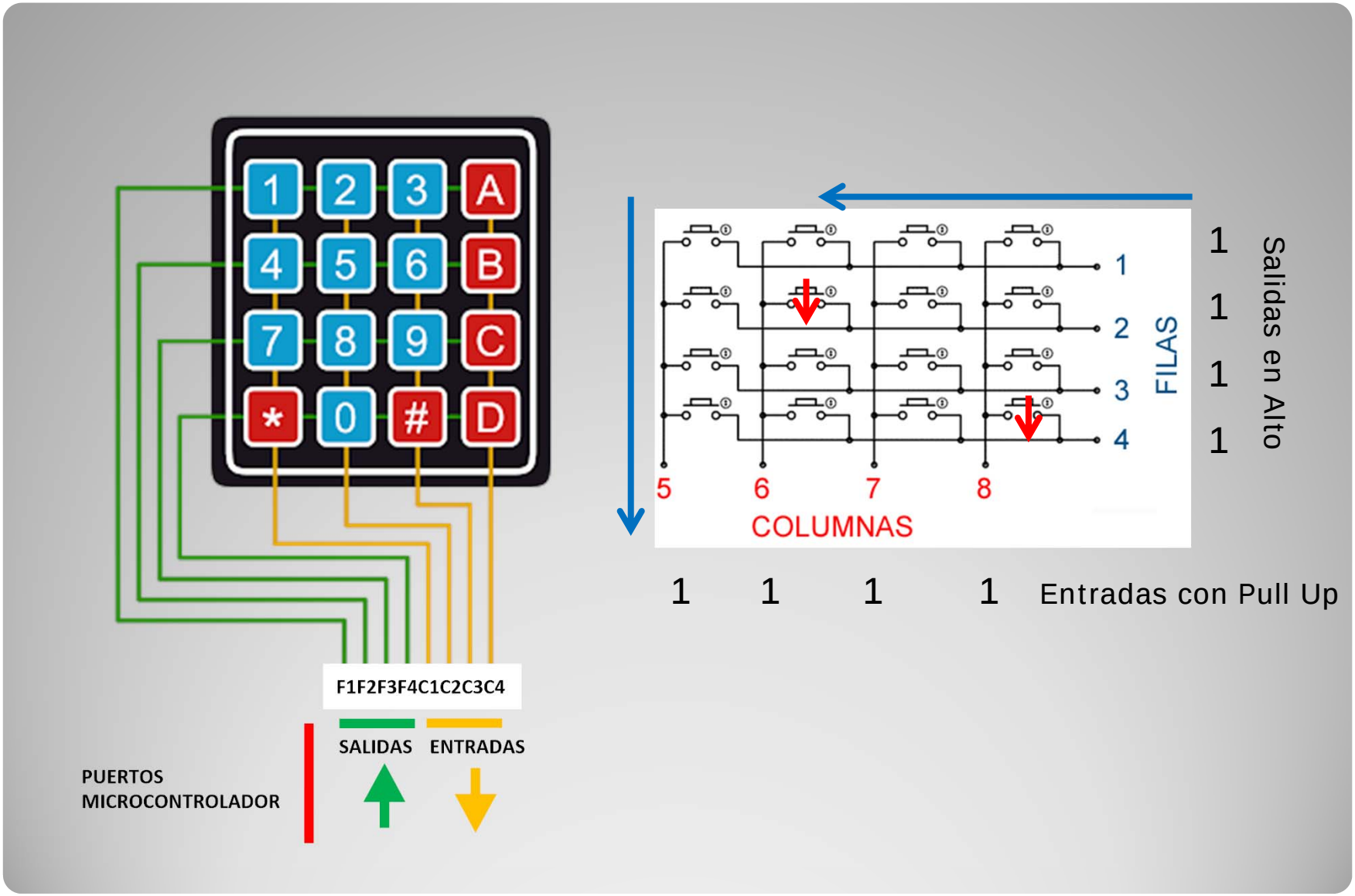

1 2 3 A
4 5 6 B
7 8 9 C
* 0 # D
12345678
1234
5678

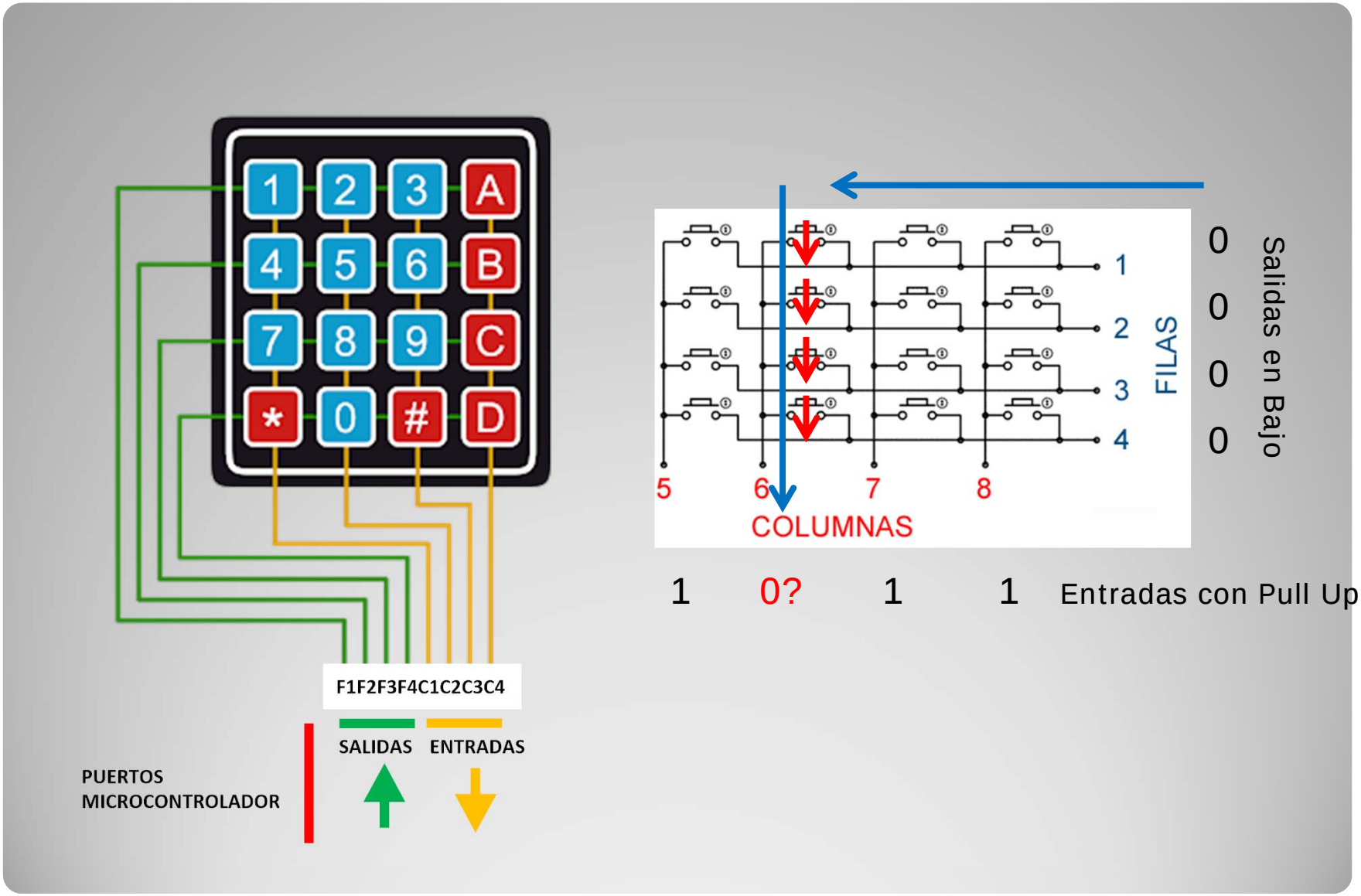

1
2
3
4
FILAS
5
6
7
8
COLUMNAS

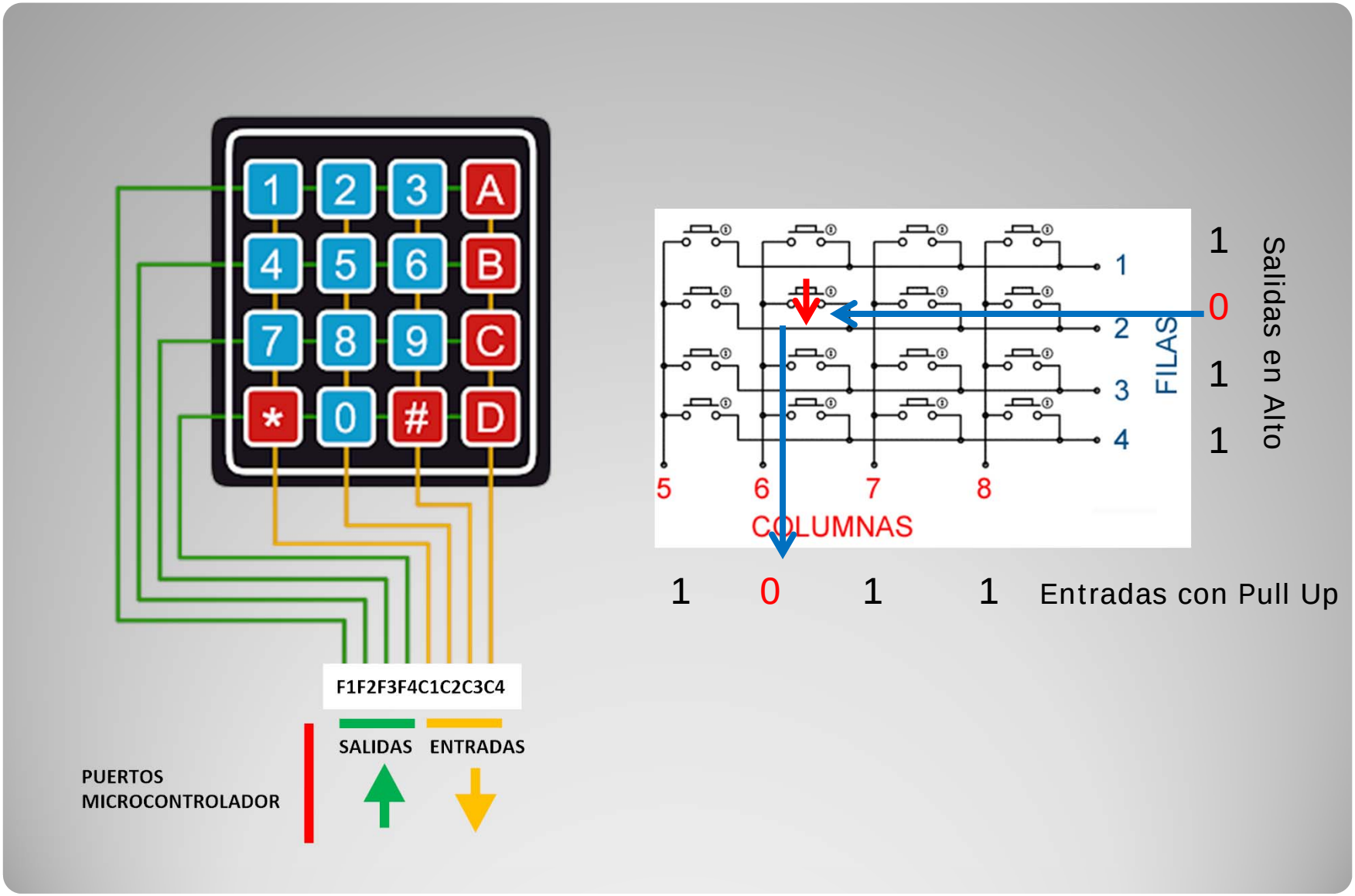

1 2 3 A
4 5 6 B
7 8 9 C
* 0 # D
F1F2F3F4C1C2C3C4


1
2
3
4
FILAS
5
6
7
8
COLUMNAS


1
2
3
A
4
5
6
B
7
8
9
C
*
0
#
D
F1F2F3F4C1C2C3C4
SALIDAS
ENTRADAS
PUERTOS
MICROCONTROLADOR
1
2
3
4
FILAS
5
6
7
8
COLUMNAS


1 2 3 A
4 5 6 B
7 8 9 C
* 0 # D
F1F2F3F4C1C2C3C4
SALIDAS
ENTRADAS
PUERTOS
MICROCONTROLADOR
1
2
3
4
FILAS
5
6
7
8
COLUMNAS
1 1 1 1
Salidas en Alto
1 1 1 1
Entradas con Pull Up


1 2 3 A
4 5 6 B
7 8 9 C
* 0 # D
F1F2F3F4C1C2C3C4
SALIDAS
ENTRADAS
PUERTOS
MICROCONTROLADOR
1
2
3
4
FILAS
5
6
7
8
COLUMNAS
0
0
0
0
Salidas en Bajo
1 0? 1 1 Entradas con Pull Up


1 2 3 A
4 5 6 B
7 8 9 C
* 0 # D
F1F2F3F4C1C2C3C4
SALIDAS
ENTRADAS
PUERTOS
MICROCONTROLADOR
1
2
3
4
FILAS
5
6
7
8
COLUMNAS
1
0
1
1
Salidas en Alto
1 0 1 1 Entradas con Pull Up

Rutina 1:

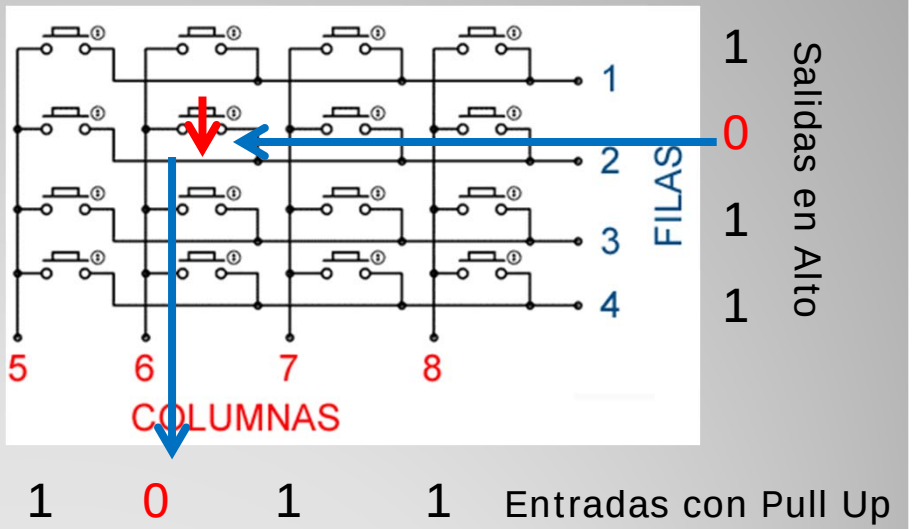
Loop:
For (filas 1 a 4 = 0)
{ columnas 1 a 4 = 0 ?
}

Rutina 2:

Habilito PCINT para columnas

Interrup PCINT columnas

For (filas 1 a 4 = 0)
{ columnas 1 a 4 = 0 ?
}
/ miro cual botón generó la interrupción/



Rutina 1:

```
Loop:
For (filas 1 a 4 = 0){
      columnas 1 a 4 = 0 ?
      {
      localización = binario FC
      }
  }

Switch-case  localización-Signo
```

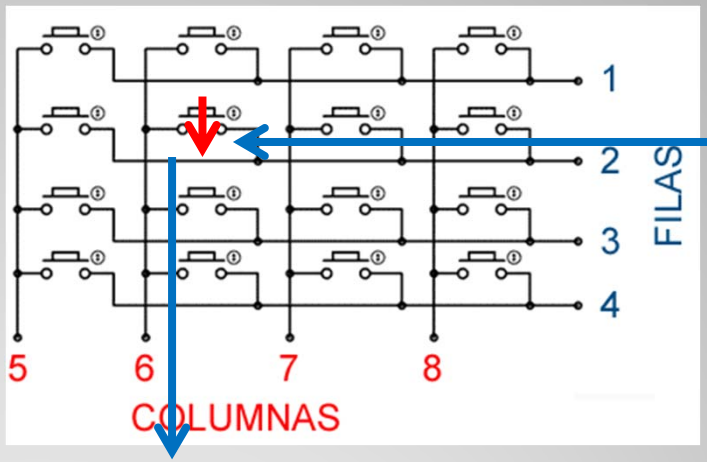
Rutina 2

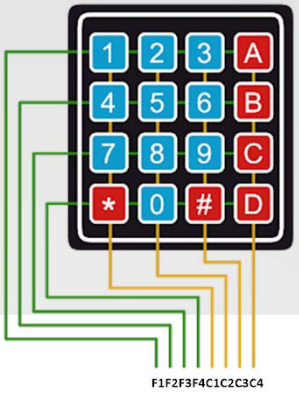
```
unsigned char key_caracter(unsigned char tecla)
{
   unsigned char caracter[]={ '1','2','3','A','4','5','6','B','7','8','9','C','*','0','#','D'};

   return(caracter [tecla] );
}
```

(4*fila)+columna

Tecla Oprimida	Binario De puertos	Signo equivalente
F1C1	0111 0111	“1”
F1C2	0111 1011	“2”
F1C3	0111 1101	“3”
F1C4	0111 1110	“A”
F2C1	1011 0111	“4”
F2C2	1011 1011	“5”
F2C3	1011 1101	“6”
...	...	...





Rebotes?