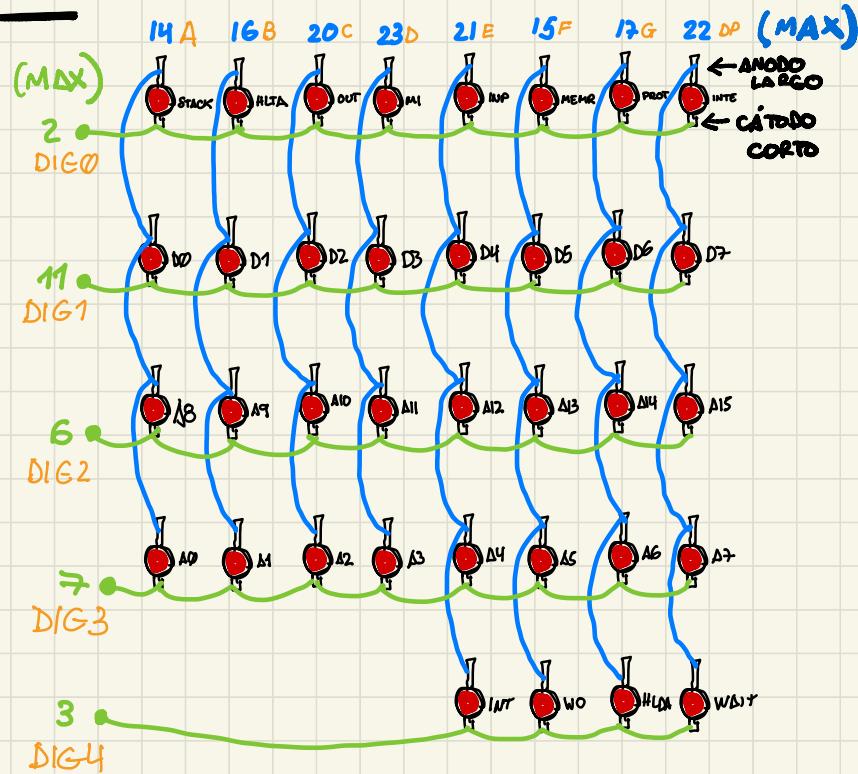
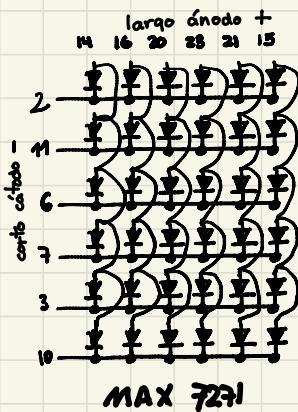


Switch: 5 momentary x 2 pos = 10
 $\begin{array}{r} + \\ 19 \\ \hline 29 \end{array}$
 19 on/off



LEDS

A hand-drawn diagram of a diode. The top part shows two horizontal lines with arrows pointing towards each other, labeled 'largo' on the left and 'corto' on the right. Below these labels are the symbols '+' and '-'. To the left of the diode is the word 'ánode' and to the right is 'cátodo'. The diode itself is drawn with a red circular symbol and blue leads.



ARDUINO CODE

```
#include <LedControl.h>
int DIN = 11;
int CS = 10;
int CLK = 13;
```

```
lc.setLed(0,1,1,value); // led for D0
```

always \emptyset

	Y	X
INTE	0	0
STK	0	1
HLTA	0	2
OUT	0	3
MI	0	4
INP	0	5
MEM	0	6
PROT	0	7
INT	4	5
WTD	4	6

D0	11
D1	12
D2	13
D3	14
D4	15
D5	16
D6	17
D7	10

		Y	X
A0	31		
A1	32		
A2	33		
A3	34		
A4	35		
A5	36		
A6	37		
A7	30		

	Y	X
A8	2	1
A9	2	2
A10	2	3
A11	2	4
A12	2	5
A13	2	6
A14	2	7
A15	2	0

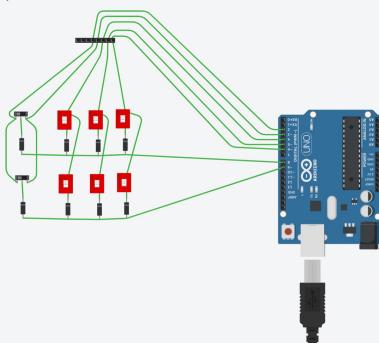
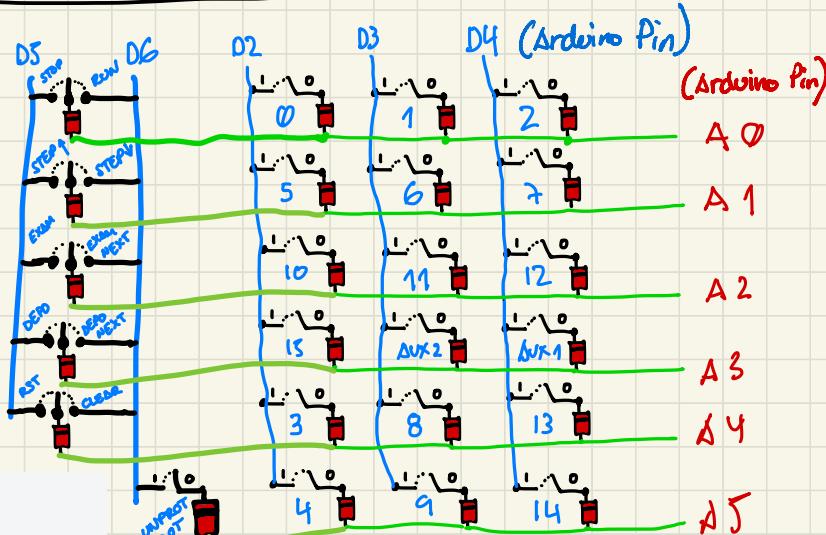
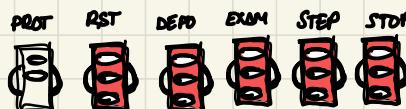
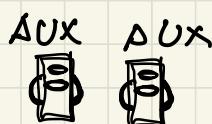
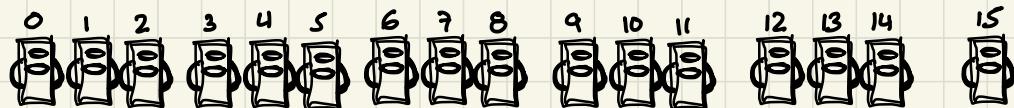
WAIT	40
HALDA	47

Keyboard

BACK FACE

5x MTS -123 SPDT (on)/OFF/(on)

19 x MTS -101 ON/OFF



SETUP SWITCHES

```
pinMode(A0, INPUT_PULLUP);
pinMode(A1, INPUT_PULLUP);
pinMode(A2, INPUT_PULLUP);
pinMode(A3, INPUT_PULLUP);
pinMode(A4, INPUT_PULLUP);
pinMode(A5, INPUT_PULLUP);

pinMode(2, OUTPUT);
pinMode(3, OUTPUT);
pinMode(4, OUTPUT);
pinMode(5, OUTPUT);
pinMode(6, OUTPUT);
```

READ SWITCHES

```
void readSwitches(){
    switches.address=0;
    switches.prev_control = switches.control;
    switches.control=0;

    digitalWrite(2,LOW);
    digitalWrite(3,HIGH);
    digitalWrite(4,HIGH);
    digitalWrite(5,HIGH);
    digitalWrite(6,HIGH);
    switches.address+=digitalRead(A0)+digitalRead(A1)*32+digitalRead(A2)*1024+digitalRead(A3)*32768+digitalRead(A4)*8+digitalRead(A5)*16;
    digitalWrite(2,HIGH);
    digitalWrite(3,LOW);
    digitalWrite(4,HIGH);
    digitalWrite(5,HIGH);
    digitalWrite(6,HIGH);
    switches.address+=digitalRead(A0)*2+digitalRead(A1)*64+digitalRead(A2)*2048+digitalRead(A4)*256+digitalRead(A5)*512;
    switches.control+=digitalRead(A3)*256;
    digitalWrite(2,HIGH);
    digitalWrite(3,HIGH);
    digitalWrite(4,LOW);
    digitalWrite(5,HIGH);
    digitalWrite(6,HIGH);
    switches.address+=digitalRead(A0)*4+digitalRead(A1)*128+digitalRead(A2)*4096+digitalRead(A4)*8192+digitalRead(A5)*16384;
    switches.control+=digitalRead(A3)*512;
    digitalWrite(2,HIGH);
    digitalWrite(3,HIGH);
    digitalWrite(4,HIGH);
    digitalWrite(5,LOW);
    digitalWrite(6,HIGH);
    switches.control+=digitalRead(A0)*16+digitalRead(A1)*32+digitalRead(A2)*64+digitalRead(A3)*128+digitalRead(A4)*4096;
    digitalWrite(2,HIGH);
    digitalWrite(3,HIGH);
    digitalWrite(4,HIGH);
    digitalWrite(5,HIGH);
    digitalWrite(6,LOW);
    switches.control+=digitalRead(A0)+digitalRead(A1)*2+digitalRead(A2)*4+digitalRead(A3)*8+digitalRead(A4)*2048+digitalRead(A5)*1024;
}
```

1 CYCLE

CMA
CMC
STC
PCHL
EI
DI
MDP
MOV r1, r2
SPHL
XCHG
INR r
DCLr
INK rp
DCX rp
DAA

2 CYCLES

XRA r
ORI r
CMPl r
RLC
RRC
RD_L
RAR
HLT
MOV r, M
MOV M, r
MVI r, data
LDAX rp
STAX rp
ADD r
ADC r
SUB r
SBB r
DCL M
DNA r

3 CYCLES

DNl data
XRD M
XRI data
ORI M
ORI data
CMPl M
CP1 data
JMP addr
J Cond addr
RET
R Cond addr
RST n
PUSH rp
PUSH PSW
POP rp
POP PSW
IN Port
OUT Port
MVI m, data
LXI Rp, data
ADD M
DDI data
ADC M
ACI data
SUB M
SUI data
SBB M
SBI data
INR M
DAD rp
DNA M

4 CYCLES

LDA addr
STA addr

5 CYCLES

CALL addr
C Cond addr
XTHL
LHLD addr
SHLD addr

i8080
machine
cycles