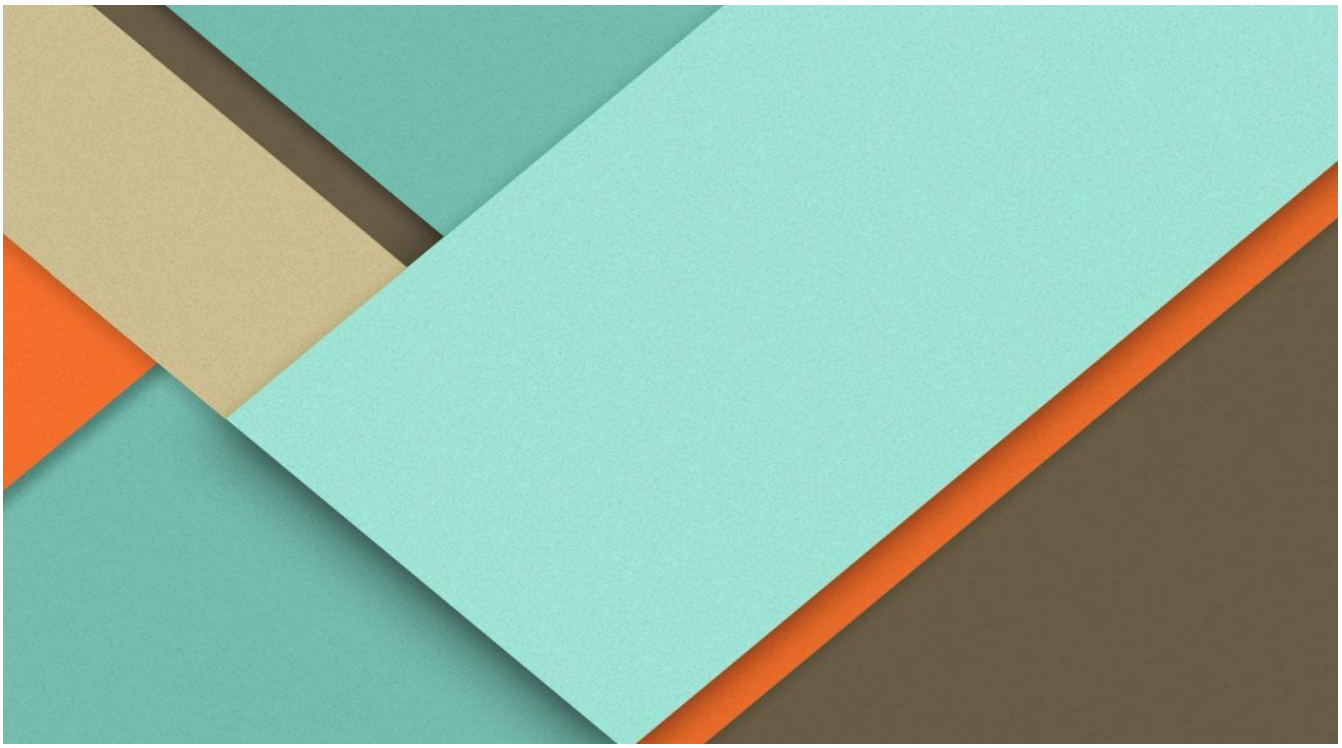
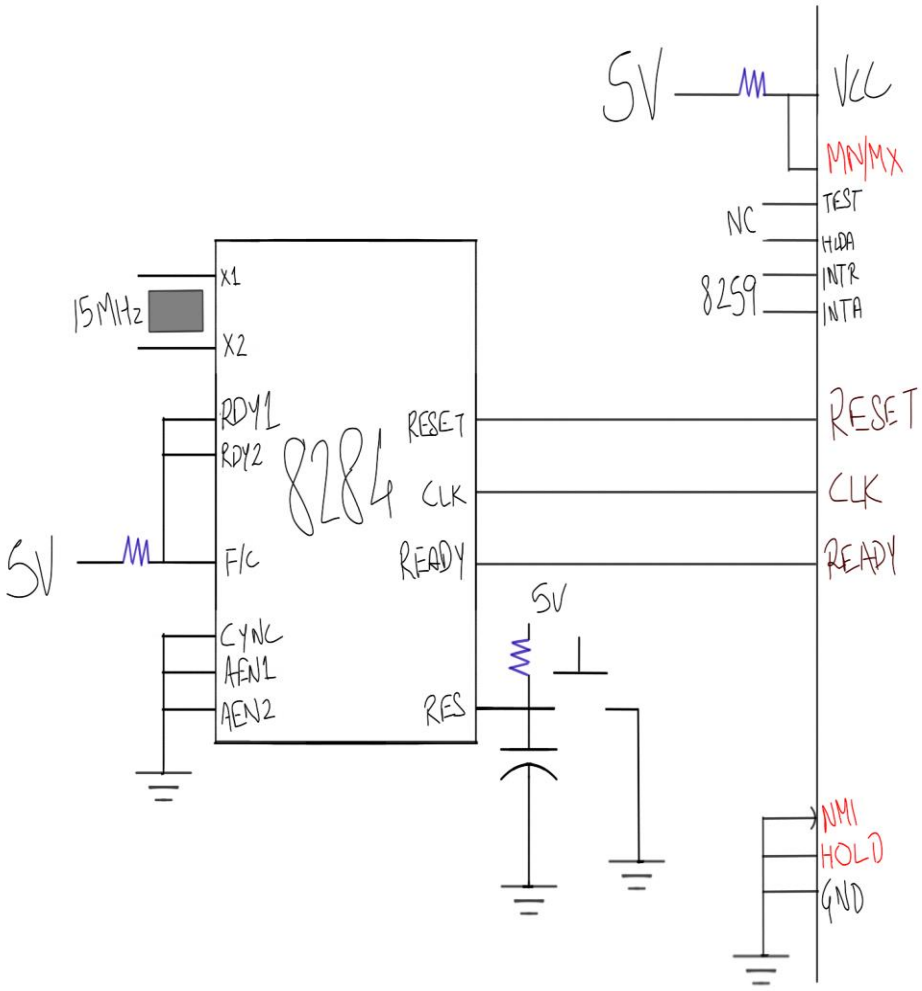


Design

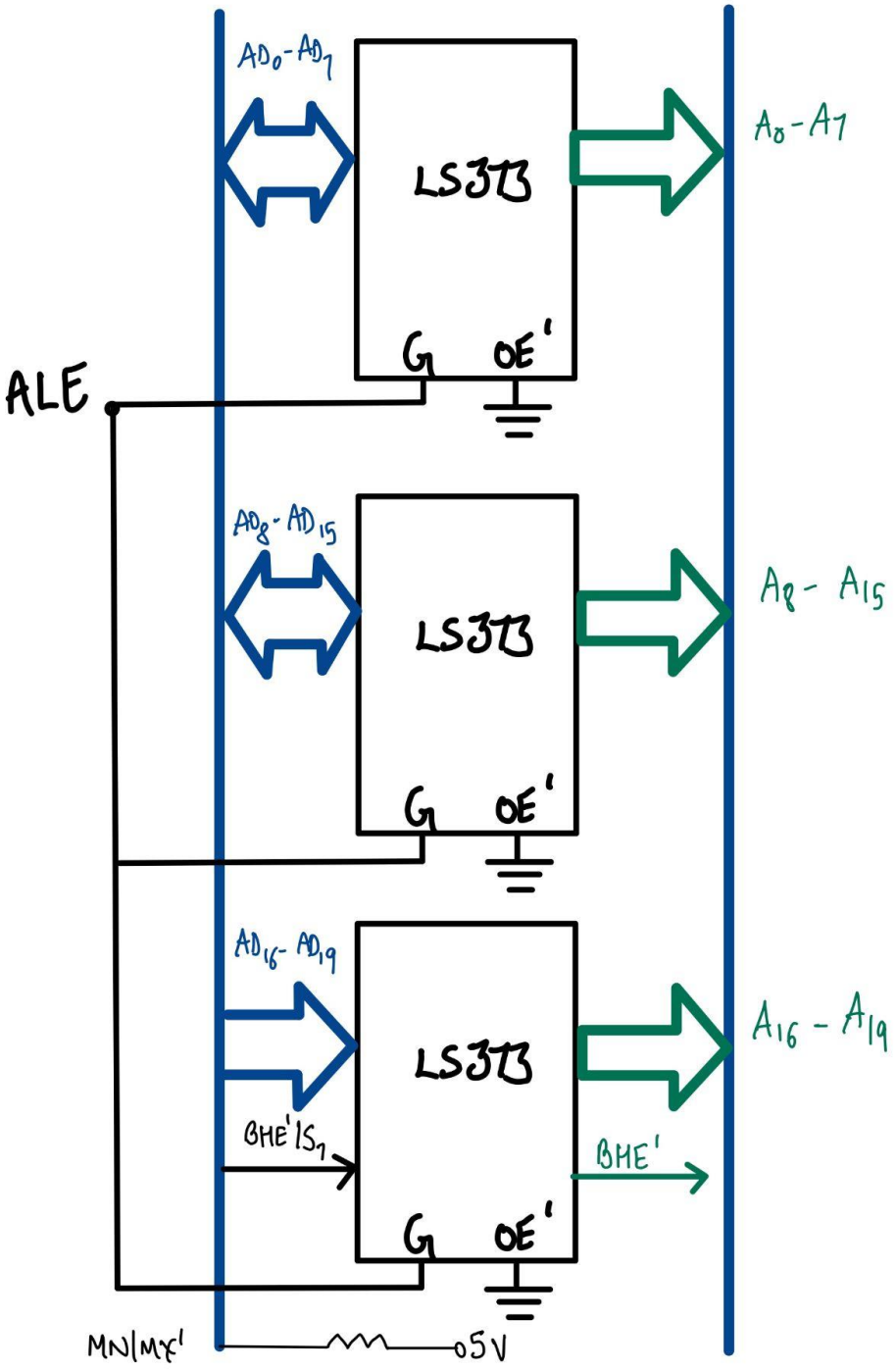
Design Problem number-18
Submitted by Group-4

Group Members

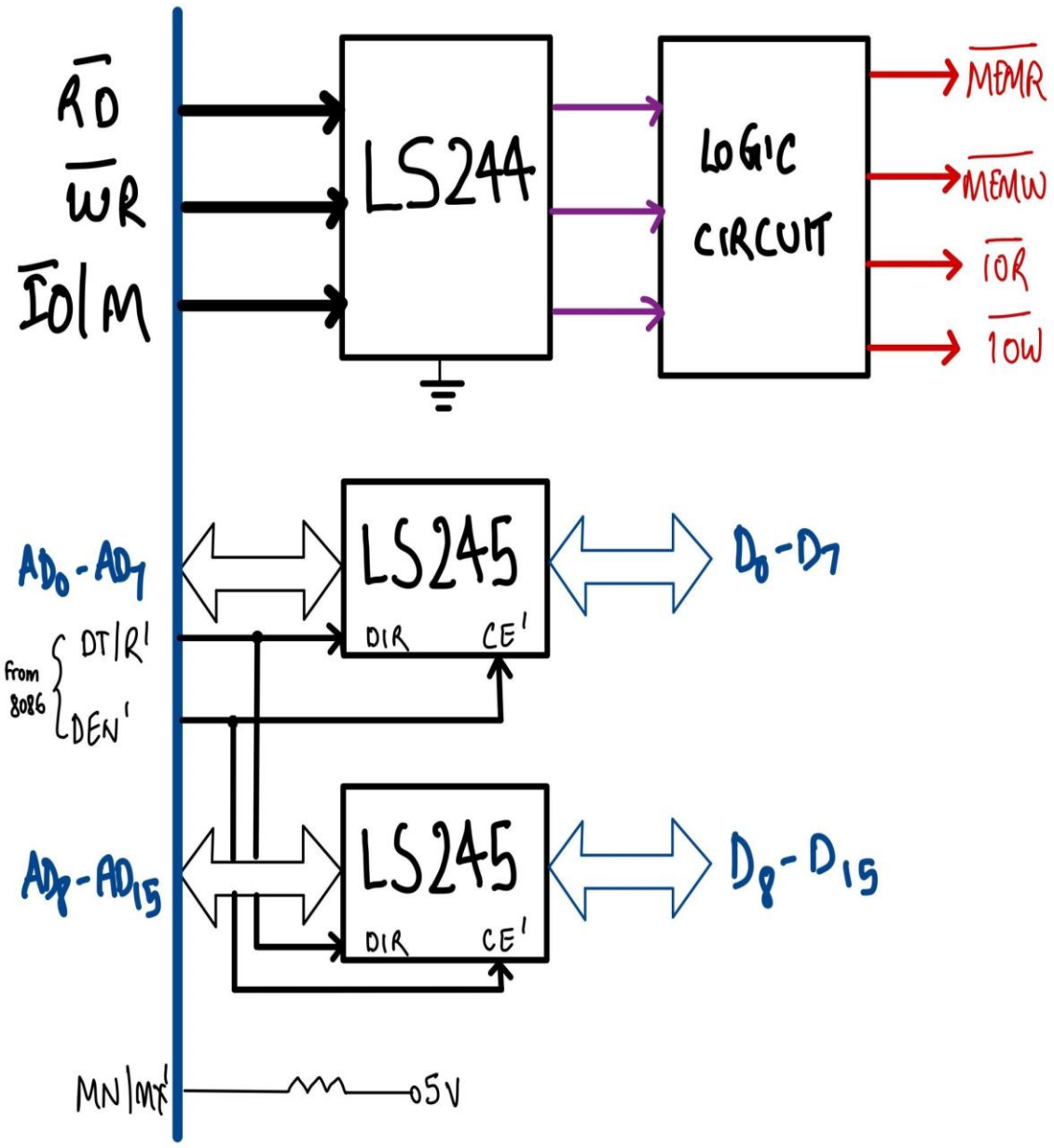
1. Ashutosh Gupta 2019AAPS0223G
2. Pranav Goyal 2019A8PS0548G
3. Sanskar Jain 2019AAPS0333G
4. Siddharth Barnwal 2019A7PS0114G
5. Sparsh Kachhadiya 2019A8PS0491G
6. Tanmay Bhonsale 2018B5A70903G



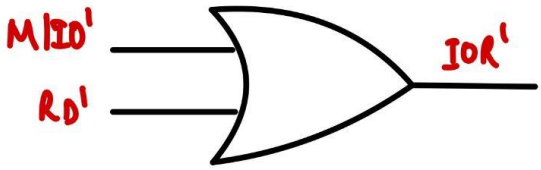
Inputs to 8086

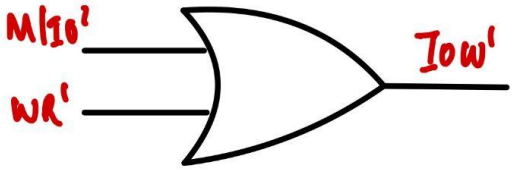


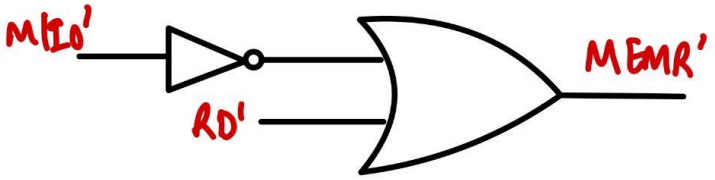
System Bus OF 8086 (Address)

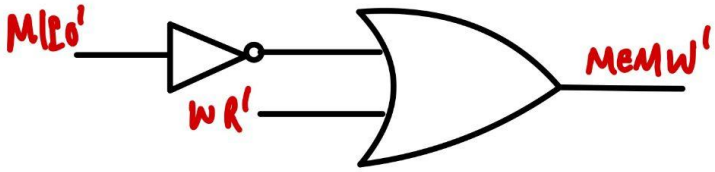


System Bus (Data + Control)



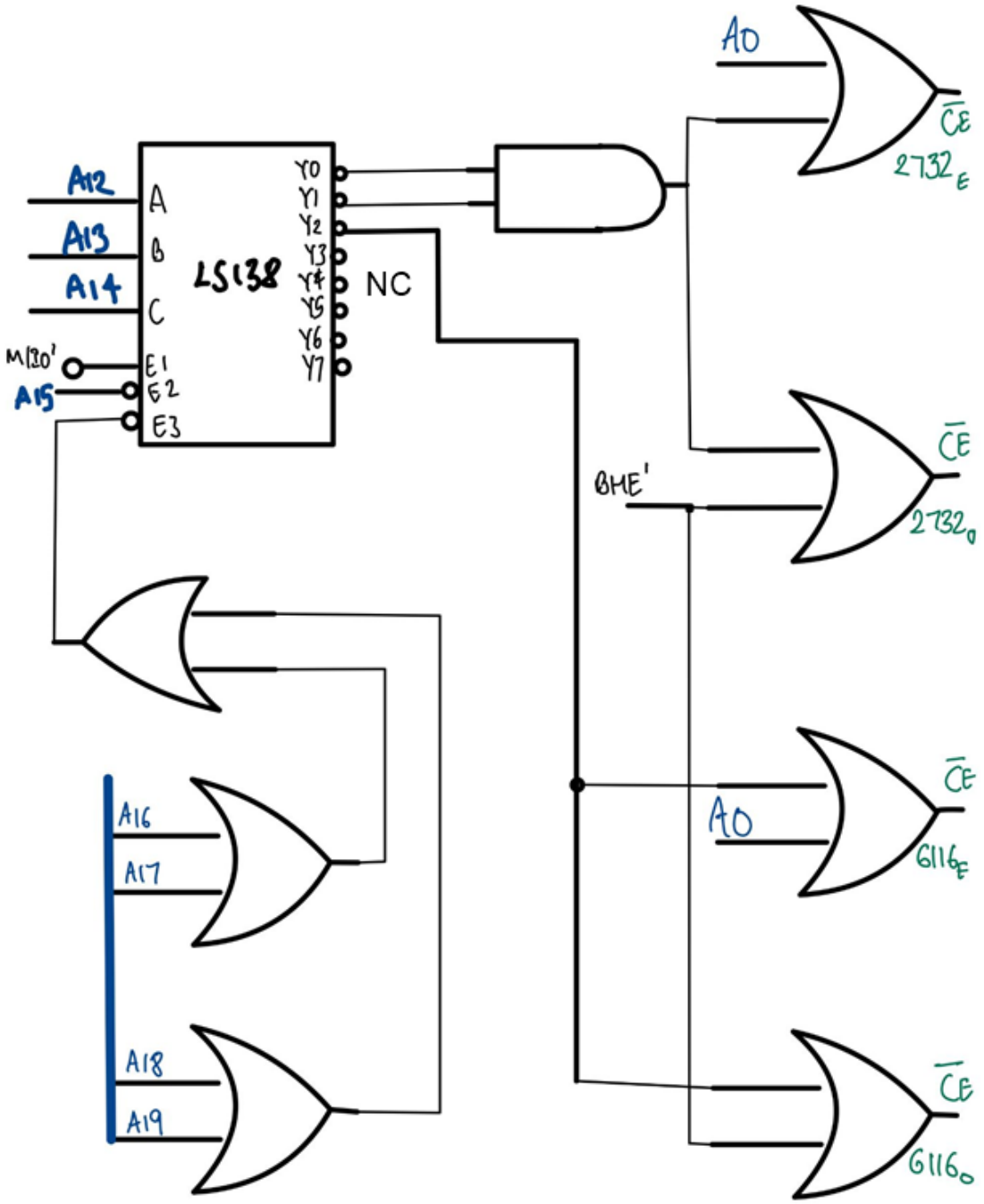




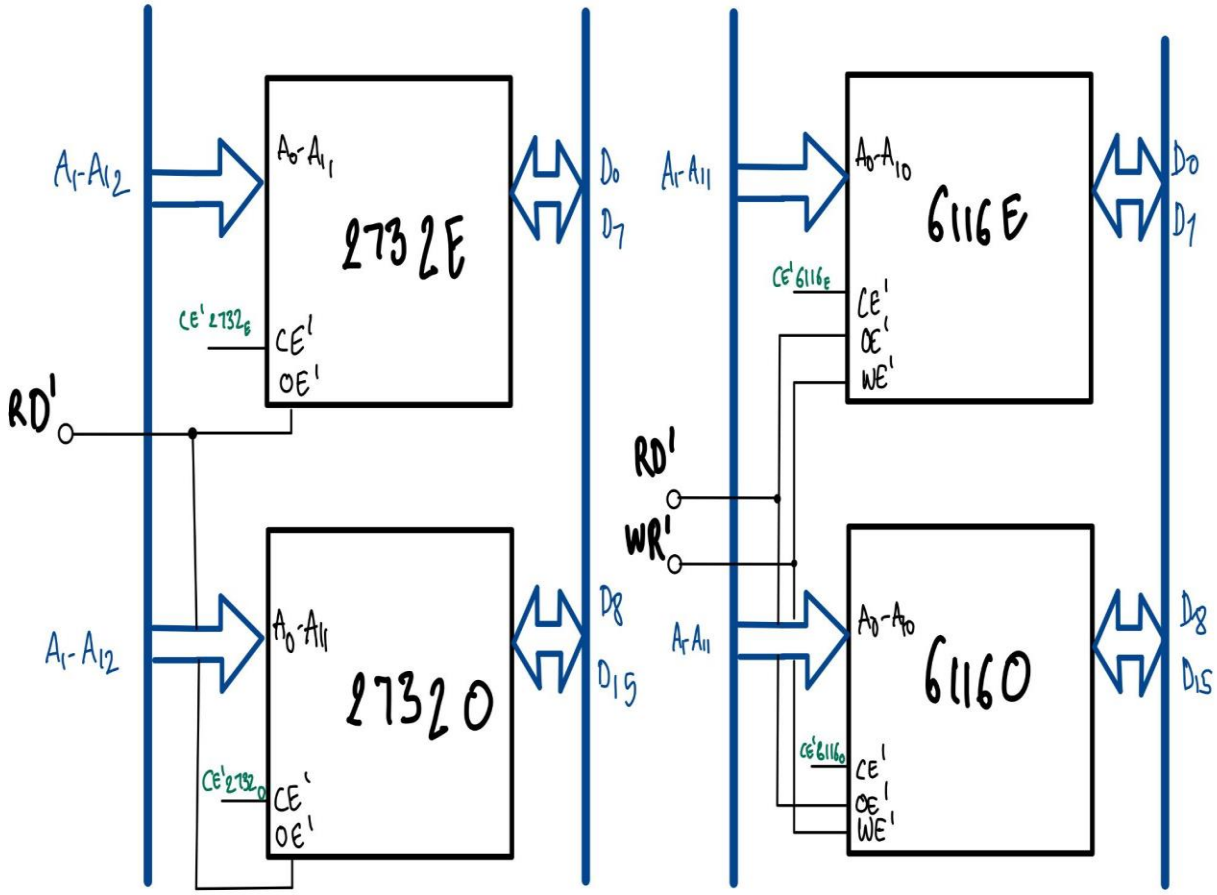


M/IO'	RD'	WR'	Bus Cycle
1	0	1	MEMR'
1	1	0	MEMW'
0	0	1	IOR'
0	1	0	IOW'

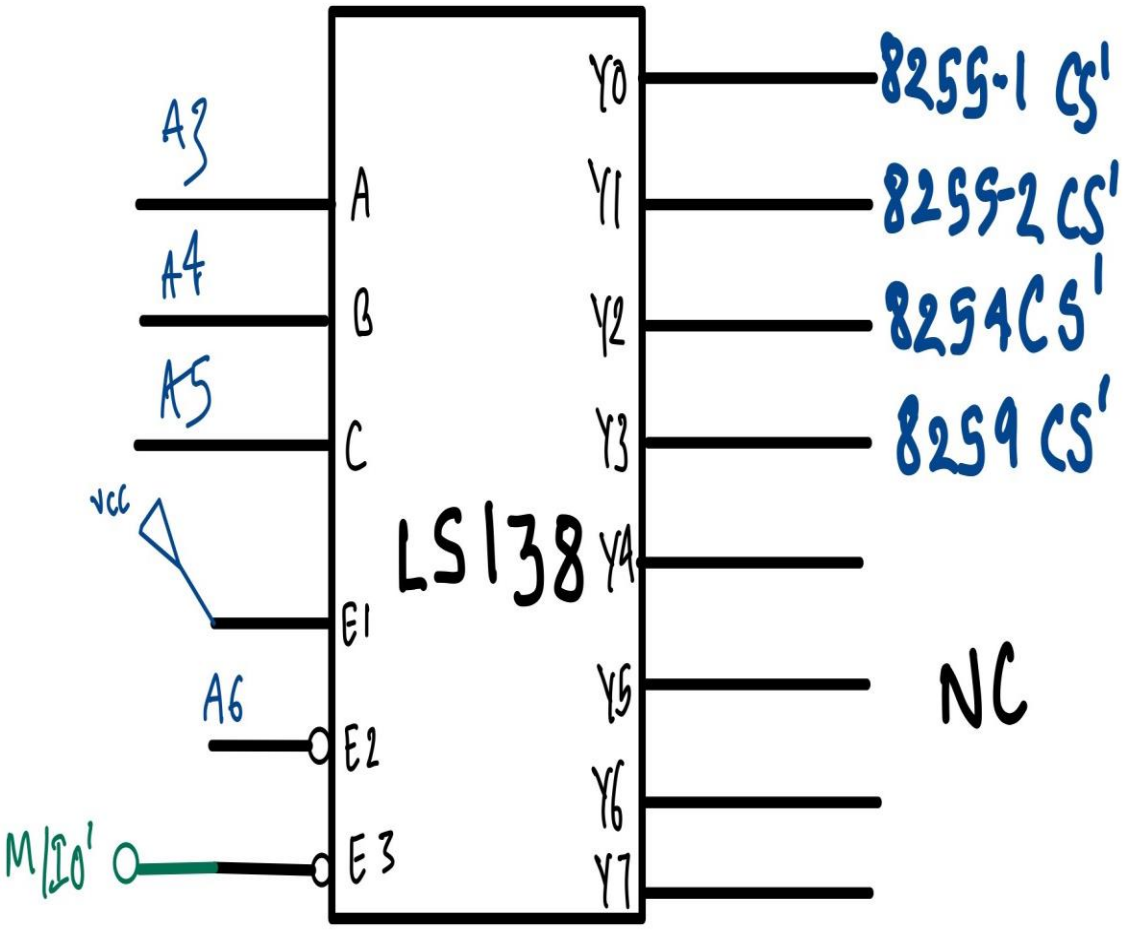
System Bus Logic



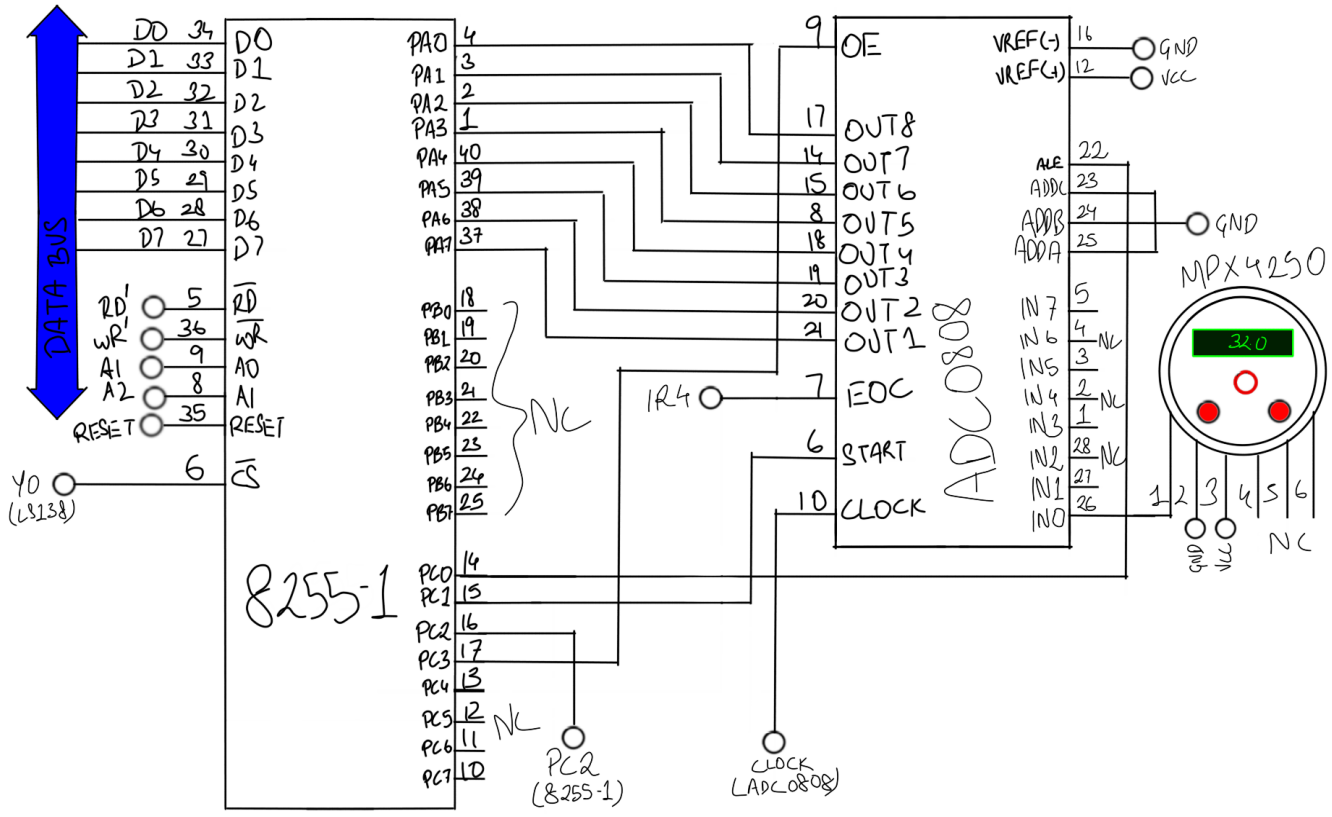
Memory Decoder



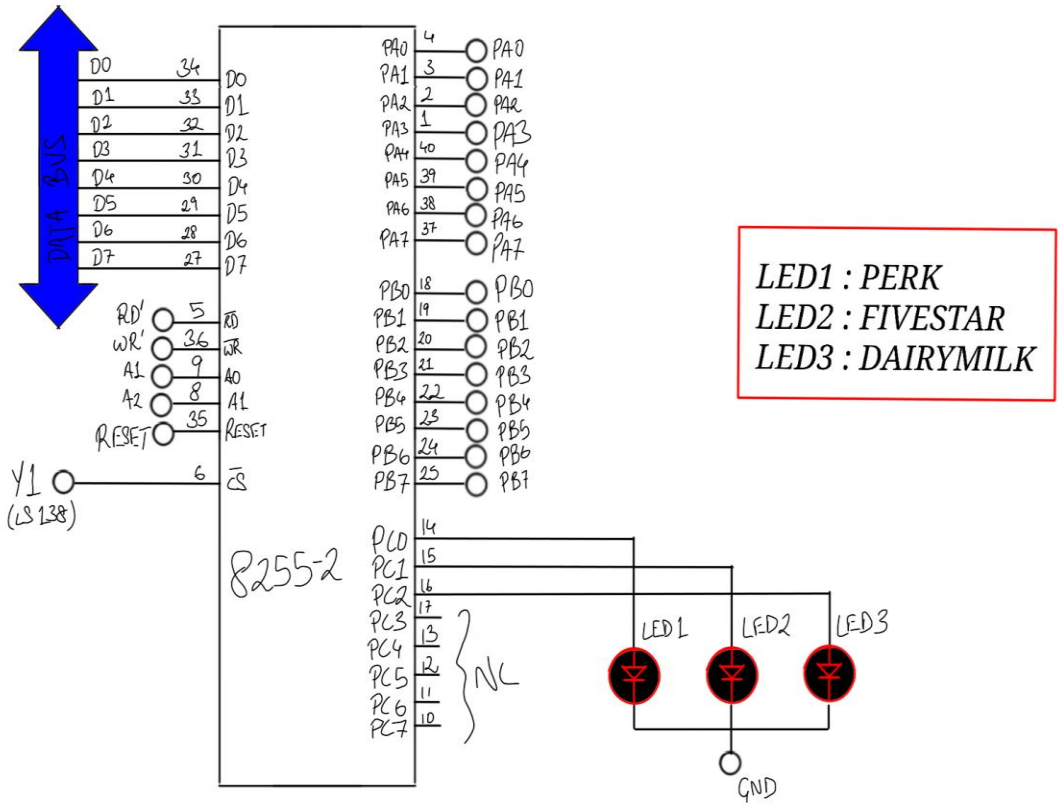
Memory Interfacing


A3
A4
A5
A6
M/IO'
Vcc
A
B
C
E1
E2
E3
LS138
Y0
Y1
Y2
Y3
Y4
Y5
Y6
Y7
8255-1 CS'
8255-2 CS'
8254 CS'
8259 CS'
NC

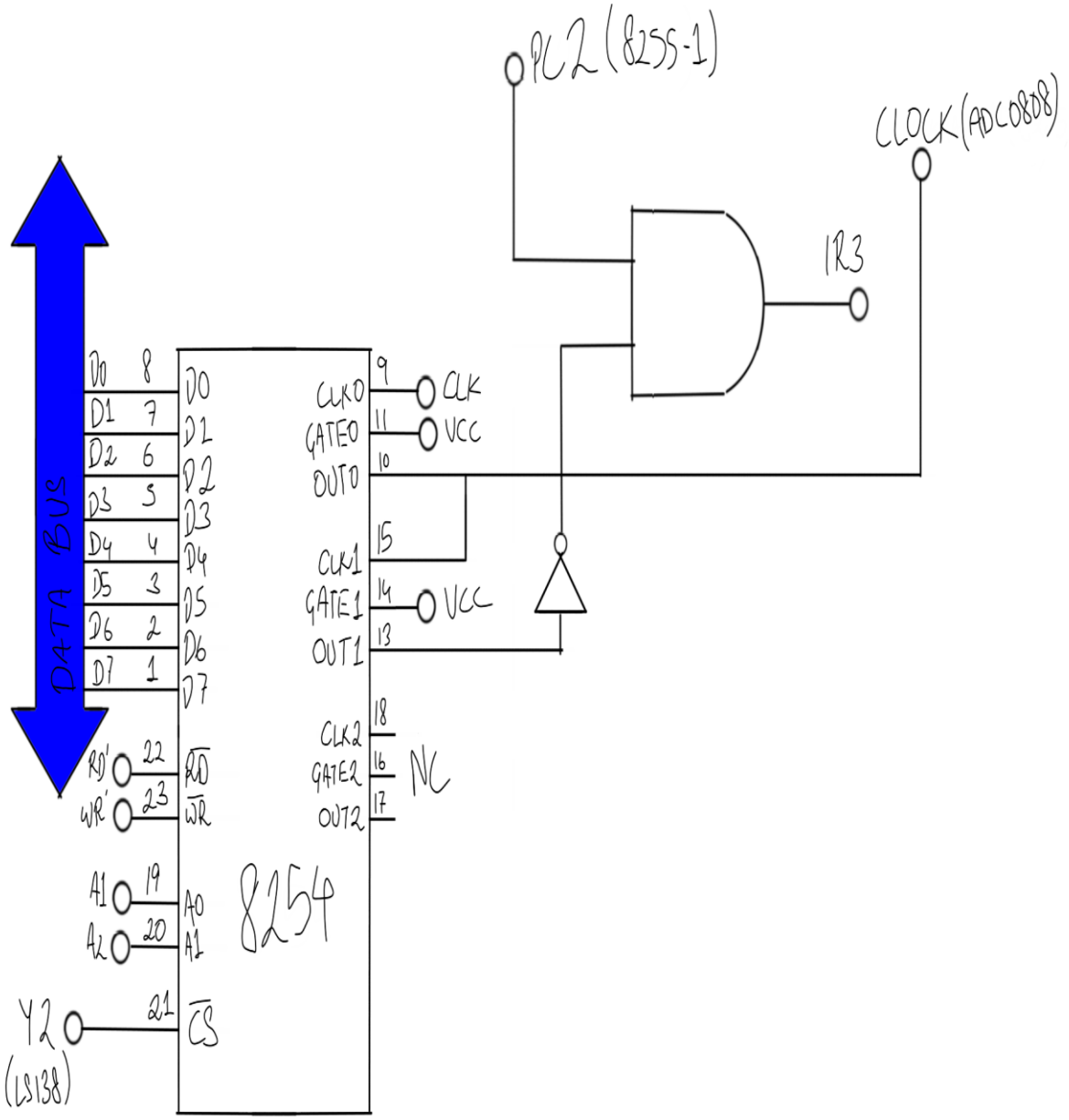
I/O Decoder


DATA BUS
D0 34
D1 33
D2 32
D3 31
D4 30
D5 29
D6 28
D7 27
RD' 5
WR' 36
A1 9
A2 8
RESET 35
Y0 (LS138) 6
8255-1
PA0 4
PA1 3
PA2 2
PA3 1
PA4 40
PA5 39
PA6 38
PA7 37
PB0 18
PB1 19
PB2 20
PB3 21
PB4 22
PB5 23
PB6 24
PB7 25
NC
PC0 14
PC1 15
PC2 16
PC3 17
PC4 13
PC5 12
PC6 11
PC7 10
NC
PC2 (8255-1)
IR4
CLOCK (ADC0808)
ADC0808
OE 9
OUT8 17
OUT7 14
OUT6 15
OUT5 8
OUT4 18
OUT3 19
OUT2 20
OUT1 21
EOC 7
START 6
CLOCK 10
VREF(-) 16
VREF(+) 12
GND
VCC
ALE 22
ADDC 23
ADDB 24
ADDA 25
GND
IN7 5
IN6 4
IN5 3
IN4 2
IN3 1
IN2 28
IN1 27
IN0 26
NC
NC
NC
MPX4250
320
1 2 3 4 5 6
GND
VCC
NC

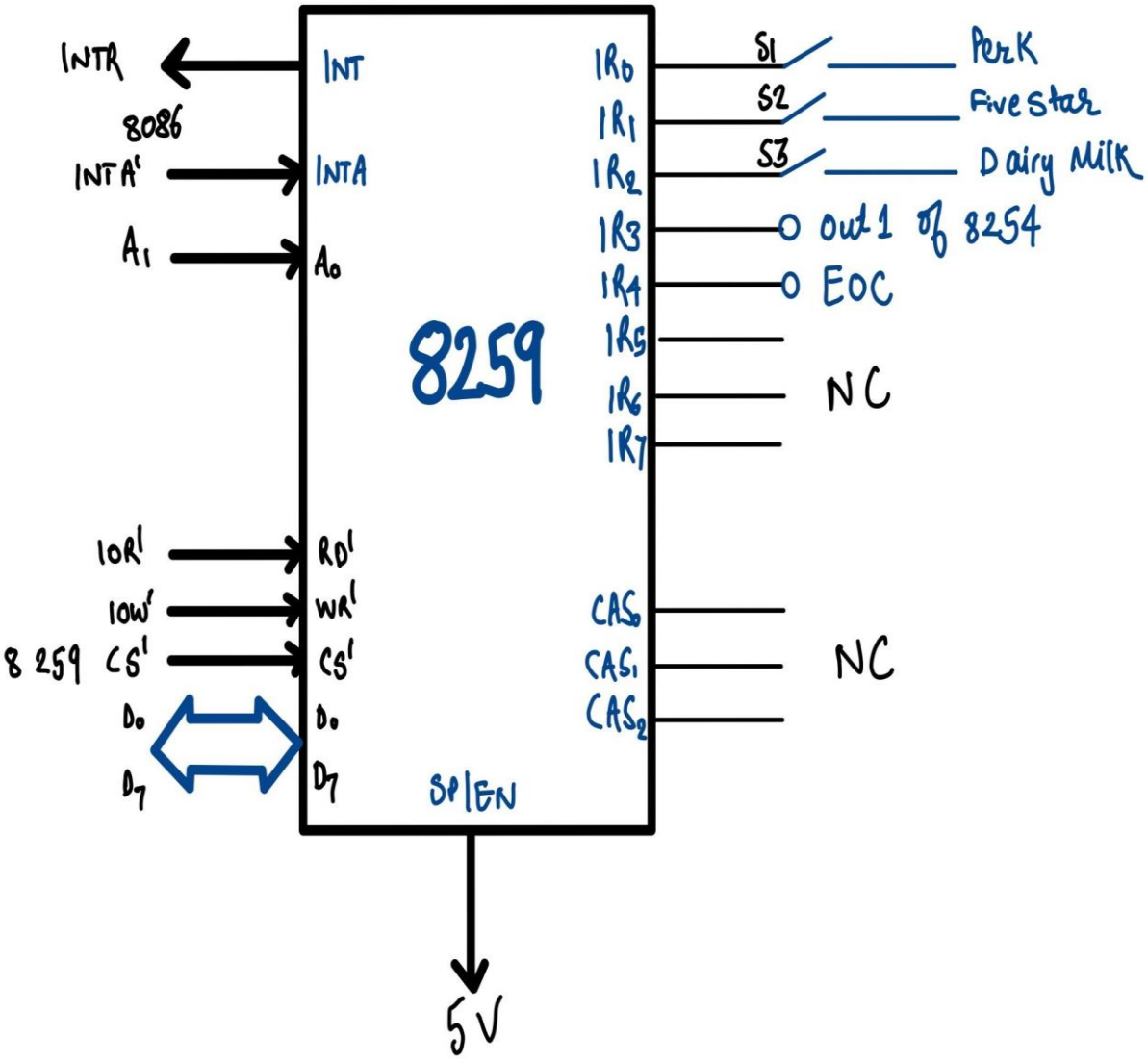
8255 -1


DATA BUS
D0
D1
D2
D3
D4
D5
D6
D7
RD'
WR'
A1
A2
RESET
Y1
(LS 138)
8255-2
PA0
PA1
PA2
PA3
PA4
PA5
PA6
PA7
PB0
PB1
PB2
PB3
PB4
PB5
PB6
PB7
PC0
PC1
PC2
PC3
PC4
PC5
PC6
PC7
NC
LED1
LED2
LED3
GND
LED1 : PERK
LED2 : FIVESTAR
LED3 : DAIRYMILK

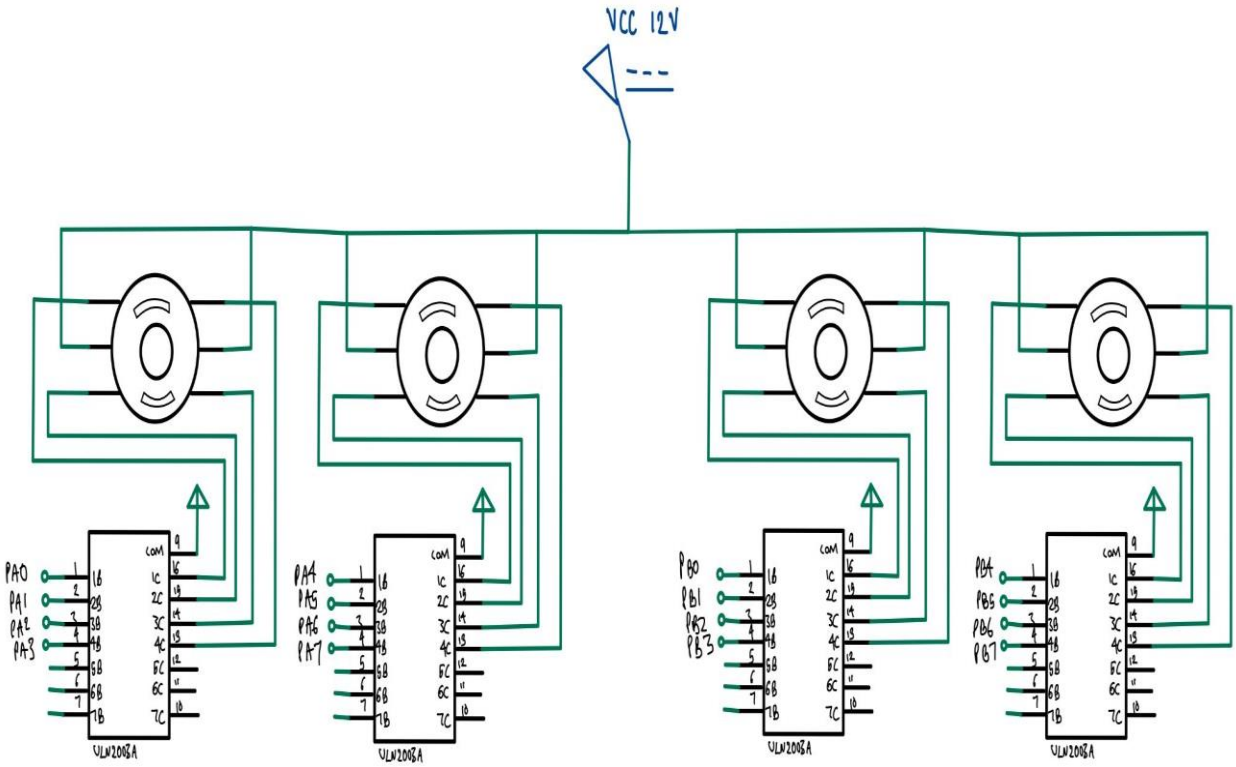
8255 - 2


PC2 (8255-1)
CLOCK (ADC0808)
IR3
DATA BUS
D0
D1
D2
D3
D4
D5
D6
D7
RD'
WR'
A1
A2
Y2
(LS138)
CS
RD
WR
A0
A1
8254
CLK0
GATE0
OUT0
CLK1
GATE1
OUT1
CLK2
GATE2
OUT2
CLK
VCC
VCC
NC

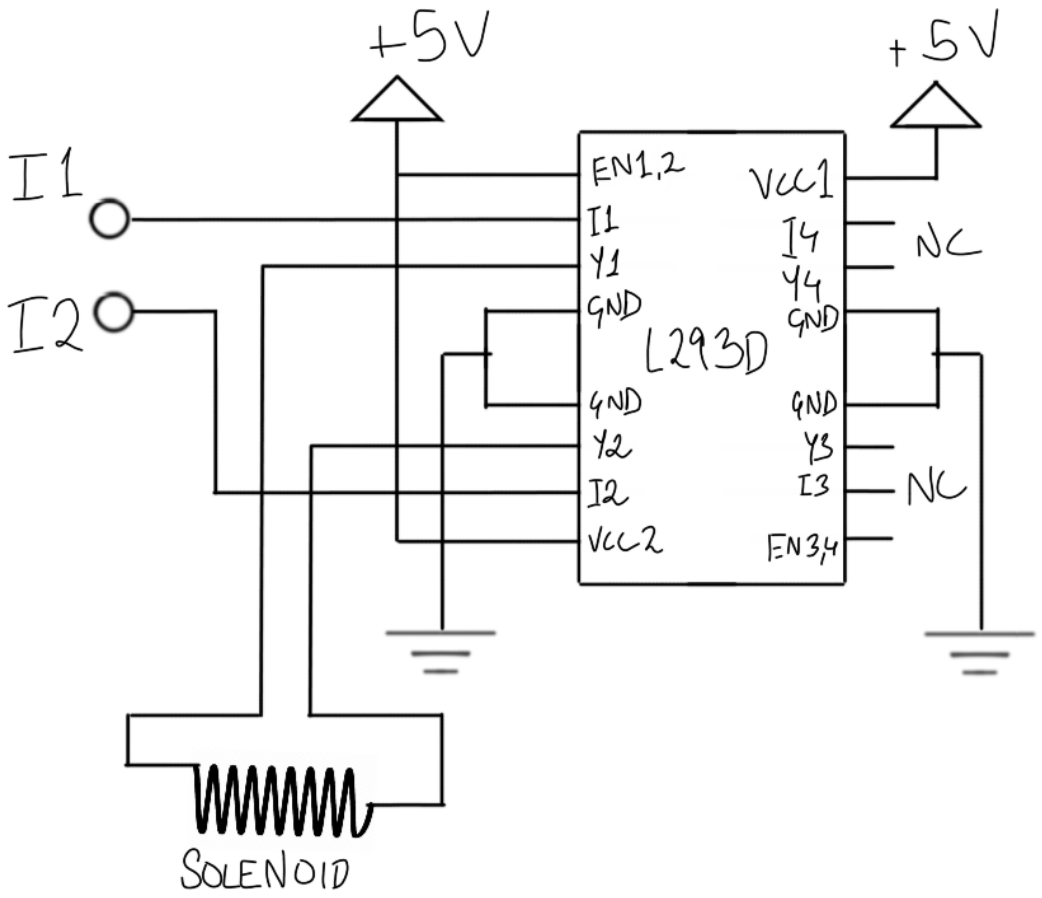
8254


INTR
INT
8086
INTA'
INTA
A1
A0
8259
IR0
IR1
IR2
IR3
IR4
IR5
IR6
IR7
S1
S2
S3
Perk
Five Star
Dairy Milk
out 1 of 8254
EOC
NC
IOR'
RD'
IOW'
WR'
8259
CS'
CS'
D0
D0
D7
D7
SP/EN
CAS0
CAS1
CAS2
NC
5V

8259



Stepper Motors



Solenoid
(connected from Port B of 8255-1)