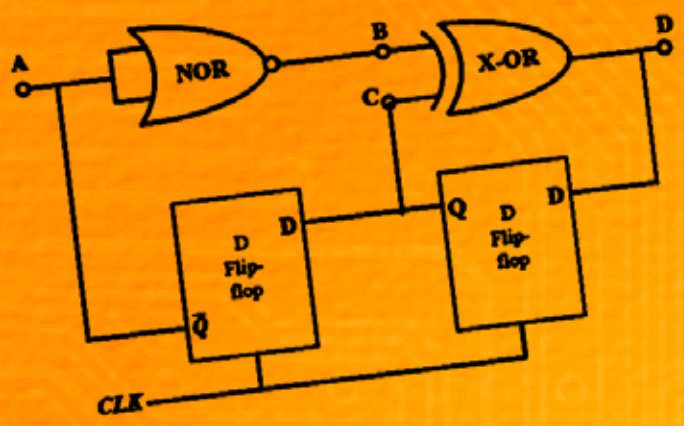
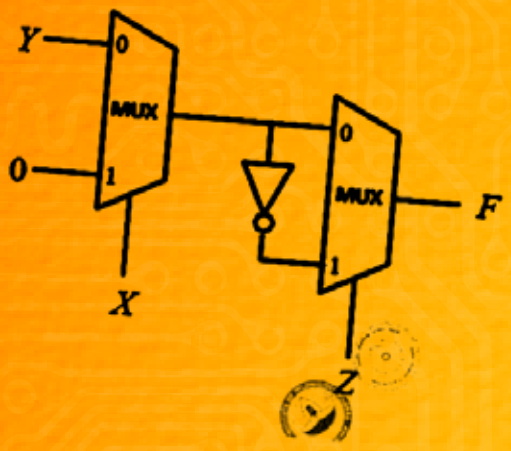
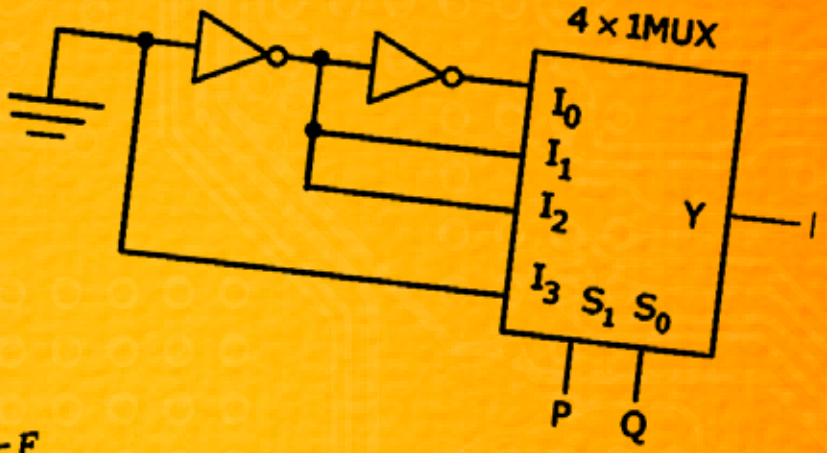
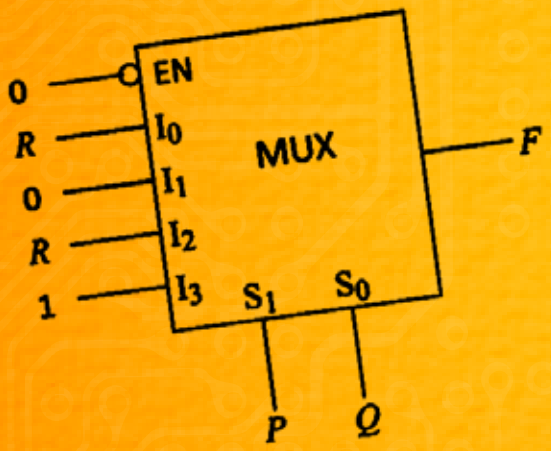

A
NOR
B
C
X-OR
D
D
Flip-flop
Q
D
Flip-flop
D
Q̄
CLK

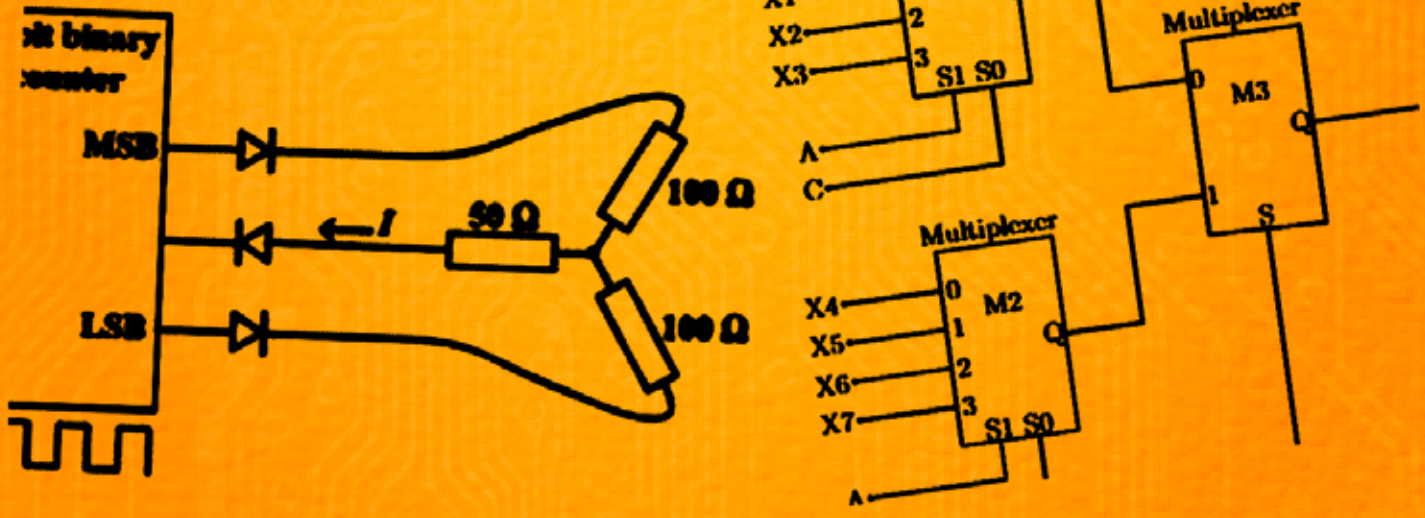

Atmega168 Pin Mapping
Arduino function
reset
digital pin 0 (RX)
digital pin 1 (TX)
digital pin 2
digital pin 3 (PWM)
digital pin 4
VCC
GND
crystal
crystal
digital pin 5 (PWM)
digital pin 6 (PWM)
digital pin 7
digital pin 8
(PCINT14/RESET) PC6
(PCINT16/RXD) PD0
(PCINT17/TXD) PD1
(PCINT18/INT0) PD2
(PCINT19/OC2B/INT1) PD3
(PCINT20/XCK/T0) PD4
VCC
GND
(PCINT8/XTAL1/TOSC1) PB6
(PCINT7/XTAL2/TOSC2) PB7
(PCINT21/OC0B/T1) PD5
(PCINT22/OC0A/AIN0) PD6
(PCINT23/AIN1) PD7
(PCINT0/CLKO/ICP1) PB0
PC5 (ADC5/SCL/PCINT13)
PC4 (ADC4/SDA/PCINT12)
PC3 (ADC3/PCINT11)
PC2 (ADC2/PCINT10)
PC1 (ADC1/PCINT9)
PC0 (ADC0/PCINT8)
GND
AREF
AVCC
PB5 (SCK/PCINT5)
PB4 (MISO/PCINT4)
PB3 (MOSI/OC2A/PCINT3)
PB2 (SS/OC1B/PCINT2)
PB1 (OC1A/PCINT1)
Arduino function
analog input 5
analog input 4
analog input 3
analog input 2
analog input 1
analog input 0
GND
analog reference
VCC
digital pin 13
digital pin 12
digital pin 11(PWM)
digital pin 10 (PWM)
digital pin 9 (PWM)
Digital Pins 11,12 & 13 are used by the ICSP header for MOSI, MISO, SCK connections (Atmega168 pins 17,18 & 19). Avoid low-impedance loads on these pins when using the ICSP header.


Y
0
MUX
1
0
MUX
1
F
X
Z


4 × 1MUX
I0
I1
I2
Y
I3
S1
S0
P
Q


0
R
0
R
1
EN
I0
I1
I2
I3
MUX
F
S1
S0
P
Q

$$f(x, y, z, w) = (x' + y)z + w'$$


bit binary
counter
MSB
LSB
1
50 Ω
100 Ω
100 Ω
X0
X1
X2
X3
0
1
2
3
M1
S1 S0
A
C
Multiplexer
M3
Multiplexer
X4
X5
X6
X7
M2
A