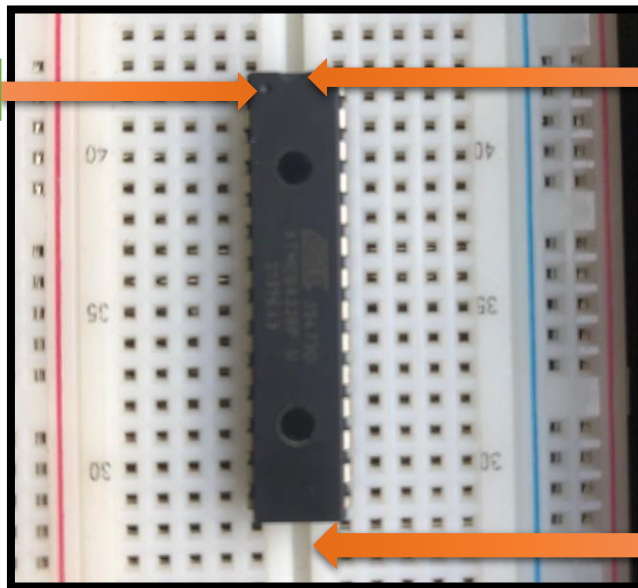# IA 2209 – Microcontroller Laboratory

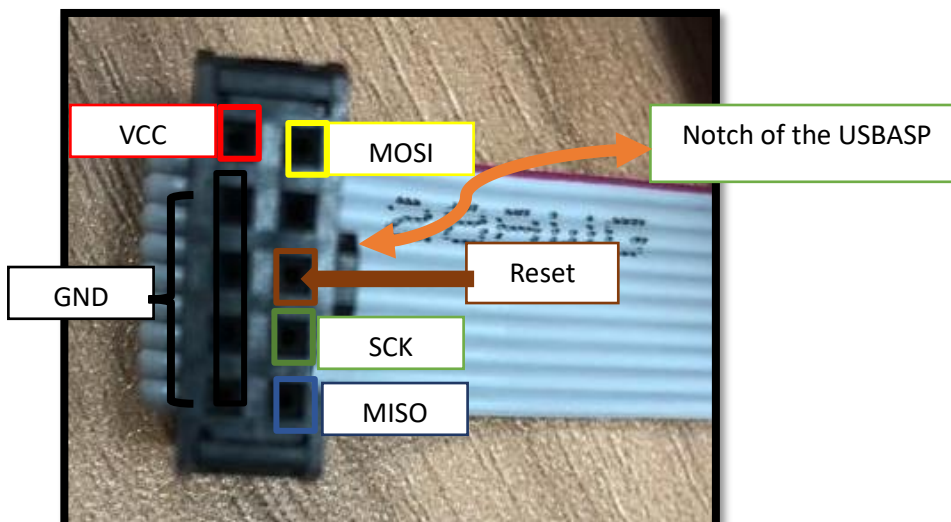## USBASP interfacing guidance for atmega328p

1

Dimple

Notch of the IC

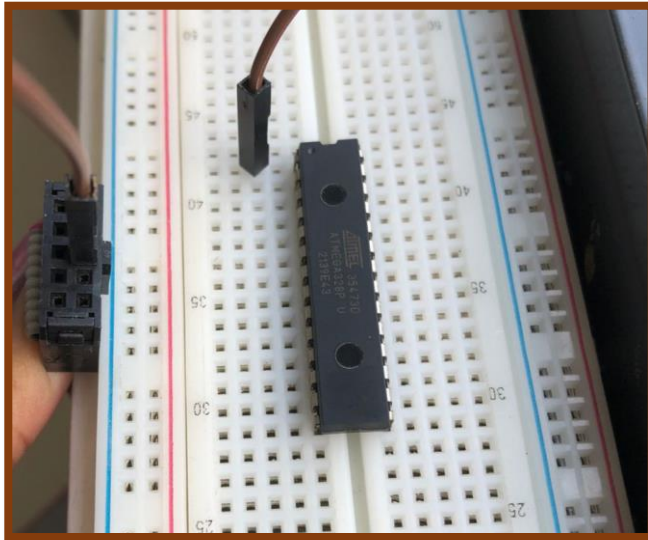Placed the IC on top of the ravine in the breadboard.

Then check the dimple or the notch of the IC to understand the pin configuration. (Pin no 1 starts from the pin which is close to the dimple of the IC.)

Ravine

(PCINT14/RESET)	PC6	Pin1	1	28	Pin28 PCS (ADCS/SCL/PCINT13)
(PCINT16/RXD)	PD0	Pin2	2	27	Pin27 PD4 (ADC4/SDA/PCINT12)
(PCINT17/TXD)	PD1	Pin3	3	26	Pin26 PD3 (ADC3/PCINT11)
(PCINT18/INT0)	PD2	Pin4	4	25	Pin2S pc2 (ADC2/PCINT10)
(PCINT19/OC2B/INT1)	PD3	Pin5	5	24	Pin24 PC1 (ADC1/PCINTS)
	PD4	Pin6	6	23	Pin23 PCO (ADCO/PCINT8)
	Vcc	Pin7	7	22	Pin22 GND
	GND	Pin8	8	21	Pin21 AREF
(PCINT6/XTAL1/TOSC1)	PB6	Pin9	9	20	Pin20O AVCC
(PCINT7/XTAL2/TOSC2)	PB7	Pin10	10	19	Pin19 PBS (SCK/PCINTS)
(PCINT21/OC0B/T1)	PD5	Pin11	11	18	Pin8 PB4 (MISO/PCINT4)
(PCINT22/OC0A/AIN0)	PD6	Pin12	12	17	Pin7 PB3 (MOSI/OC2A/PCINT3)
(PCINT23/AIN1)	PD7	Pin13	13	16	Pin6 PB2 (SS/OC1B/PCINT2)
(PCINT0/CLKO/ICP1)	PB0	Pin14	14	15	PinlS PB1 (OC1A/PCINTI)

ATMEGA328

VCC

MOSI

Notch of the USBASP

Reset
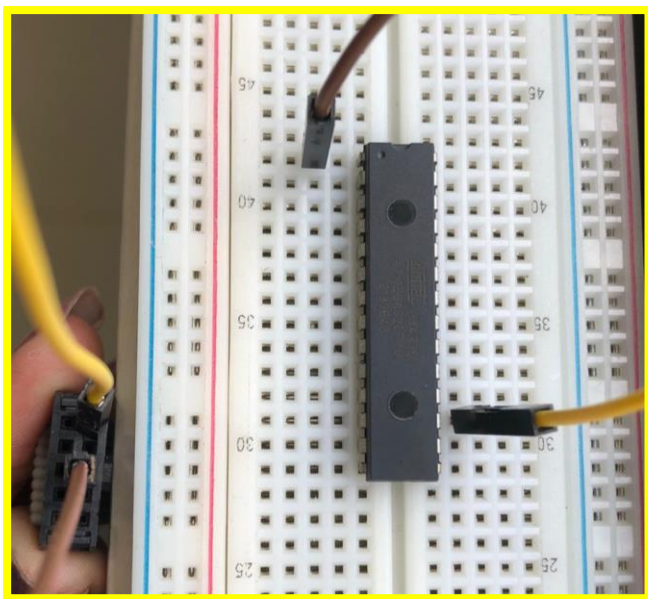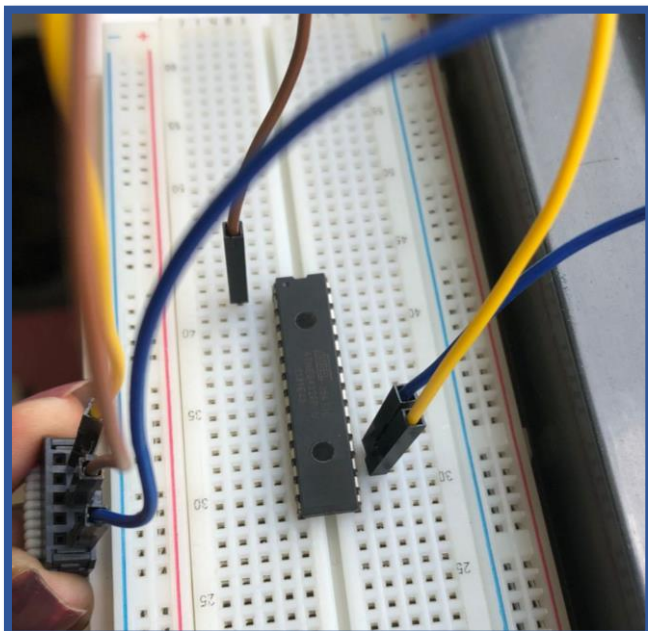
GND

SCK

MISO

2.

Make the connection between **pin1** and the **reset** of the USBasp.

3

Make the connection between **pin17** and the **MOSI** of the USBasp.

4.

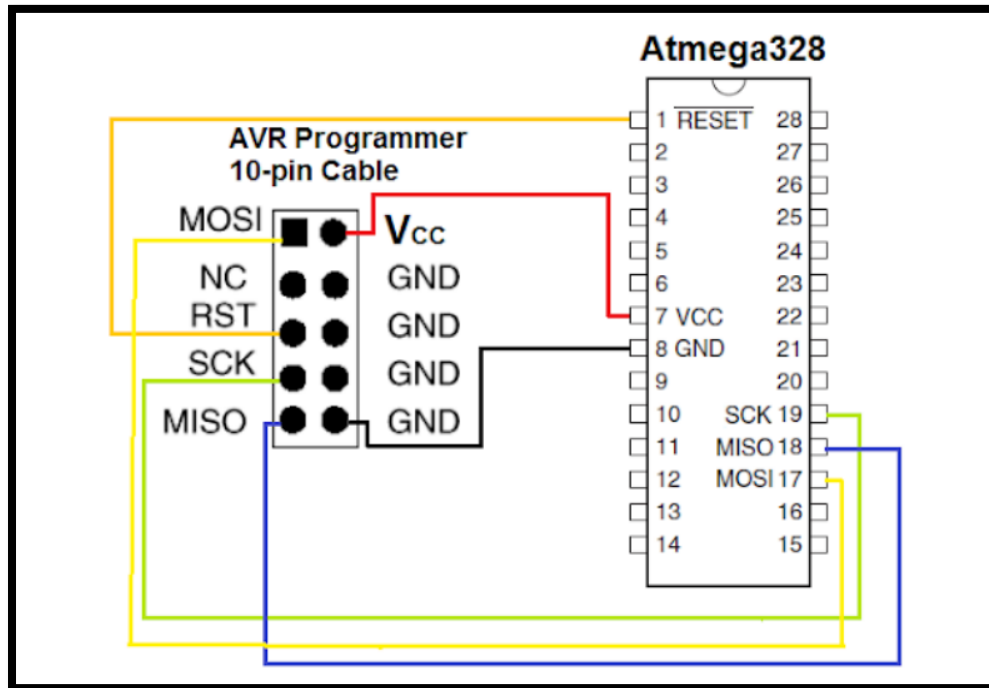Make the connection between **pin18** and the **MISO** of the USBasp.

5.

Make the connection between **pin19** and the **SCK** of the USBasp.

6.

Make the connection between **pin 7** and the **VCC** of the USBasp.

7.

Make the connection between **pin8** and any **GND** of the USBasp.

The circuit diagram of interfacing USBasp programmer with ATmega328

8. If you correctly make the connection and then upload the build code into the USBasp through USB port, you will have an interface like the one below.