What is Servo Motor?

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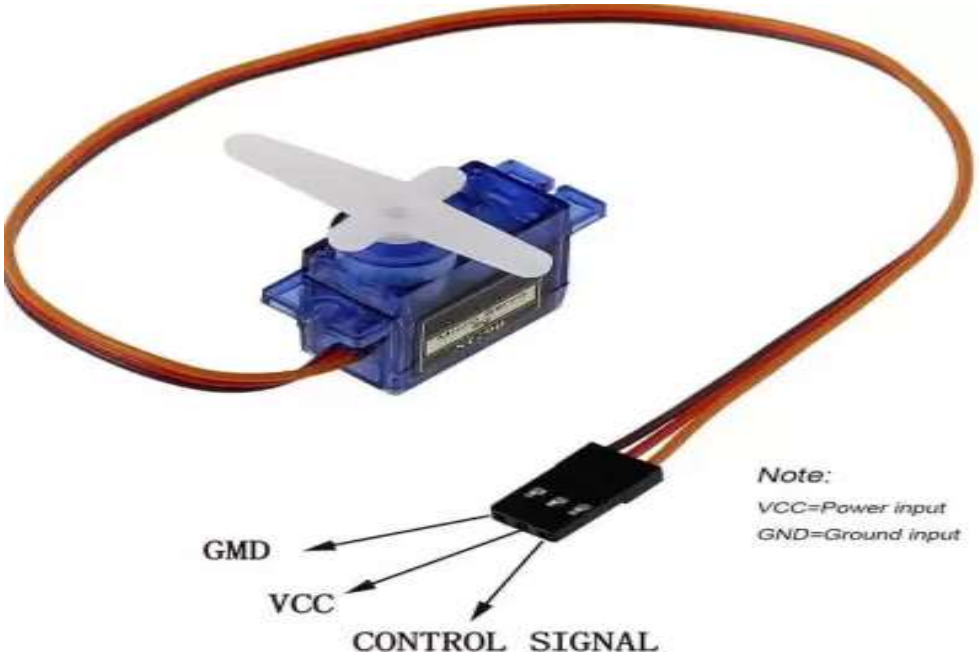
- **A Servomotor is a rotary or linear motor that allows for precise control of angular or linear position, velocity, and acceleration.**



Servo Motor Working Mechanism

- Servo Motor Working Mechanism consists of three parts:

a) Motor Controller

b) Output sensor

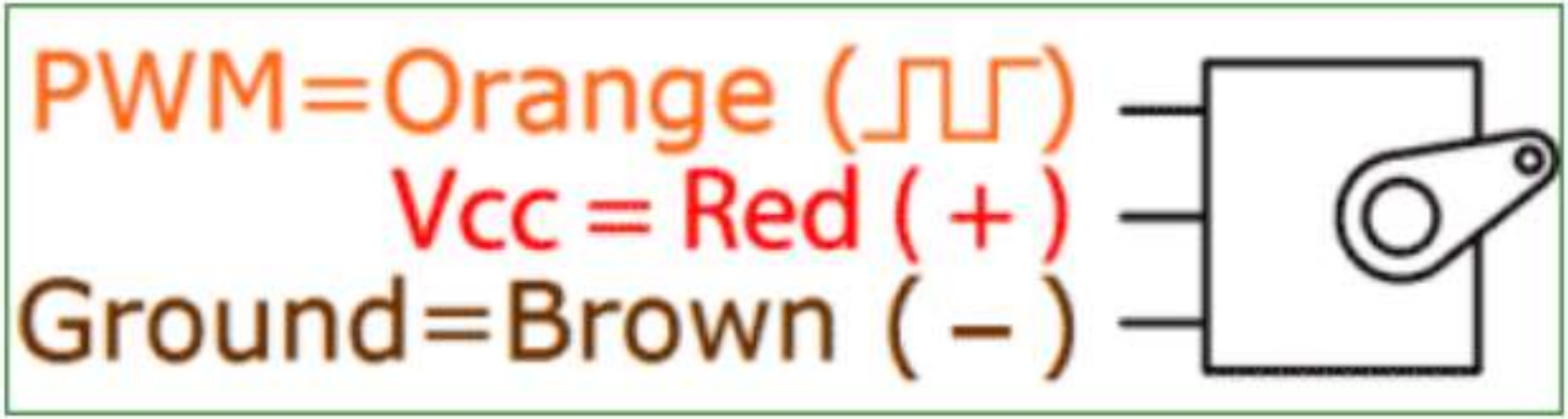
c) Feedback system

- Servo Works with a closed-loop system that uses a positive feedback system to control motion.

Interfacing Servo Motor with Arduino:

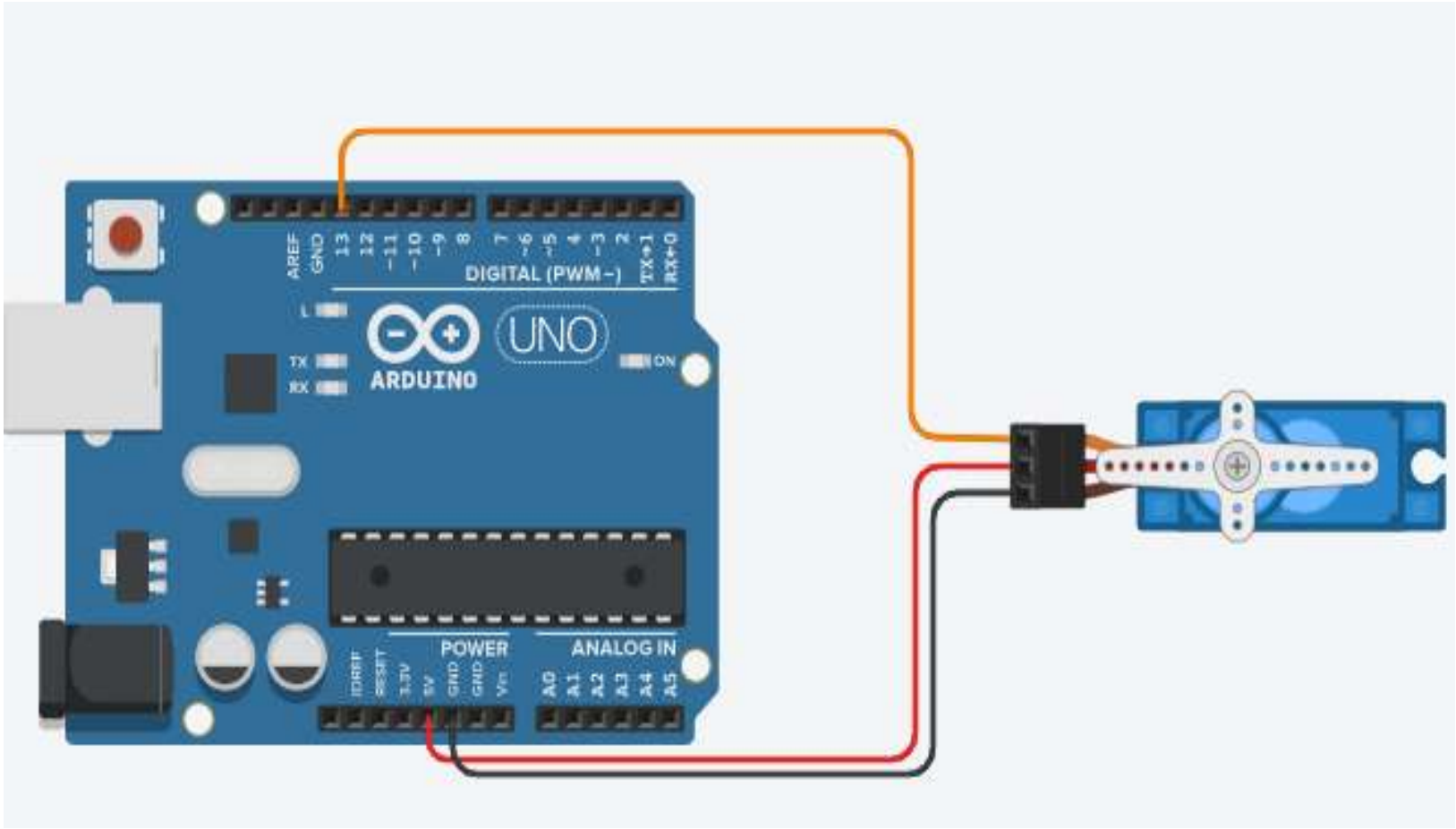
- Servo motors like SG90 servo motor with MCU is very easy.
- Servos have three wires coming out of them. Out of which, two will be used for Supply (positive and negative) and one for the signal to be sent from the MCU.
- An SG90 Servo Motor rotates from 0 to 180 degrees at each position of 90 degrees which is most used for RC cars, humanoid bots etc.

Servo wires colour coding



- **The color coding of your servo motor might differ.**
- **All servo motors work directly with your +5V supply rails.**

Tinker this !


AREF
GND
13
12
~11
~10
~9
8
7
~6
~5
4
~3
2
TX→1
RX←0
DIGITAL (PWM~)
L
TX
RX
ARDUINO
UNO
ON
POWER
ANALOG IN
IOREF
RESET
3.3V
5V
GND
GND
Vin
A0
A1
A2
A3
A4
A5

Coding part

```
#include <Servo.h>
Servo myservo;
int pos=0;

void setup(){
  myservo.attach(13);
}

void loop(){
  myservo.write(180);
  delay(100);
  myservo.write(90);
  delay(100);
}
```

Servo motor Control using potentiometer

```
#include <Servo.h>;
Servo myservo;
int pot=A0;
int x;
int value;

 void setup() {
pinMode(A0,INPUT);
myservo.attach(13); }

void loop()
{ x=analogRead(pot);
value=map(x,0,1023,0,180);
myservo.write(value);
}
```


THANK
YOU!