Ex. No:	Servo Motor (knob mode)
Date:	

AIM:

To Develop an application to control a servo motor with Arduino/Raspberry pi and to write a program to run the motor in knob mode.

COMPONENTS REQUIRED:

COMPONENTS	NOS
ARDUINO UNO	1
POTENTIOMETER	1
USB CABLE (A to B)	1
SERVO MOTOR	1
BREAD BOARD	1

PROCEDURE:

Step1: Connect the **GND (Ground)** wire of the servo (usually black or brown) to the **GND** pin on the Arduino.

Step2: Connect the **VCC (Power)** wire of the servo (usually red) to the **5V** pin on the Arduino.

Step3: Connect the **Signal** wire of the servo (usually yellow, orange, or white) to **digital pin 9** on the Arduino.

Step4: Connect one outer pin of the potentiometer to **5V** on the Arduino.

Step5: Connect the other outer pin of the potentiometer to **GND** on the Arduino.

Step6: Connect the middle pin (wiper) of the potentiometer to **Analog pin A0** on the Arduino.

Step 7: Open the Arduino IDE on your computer. Then write the code.

Step 8: Connect your Arduino to the computer via USB. Select the board and port in the **Tools** menu.

Step 9: Click on the **Upload** button (arrow icon) to upload the code to the Arduino.

Step 10: Once uploaded, gently turn the potentiometer. As you rotate the potentiometer, the servo motor should move accordingly.

SCHEMATIC DIAGRAM:
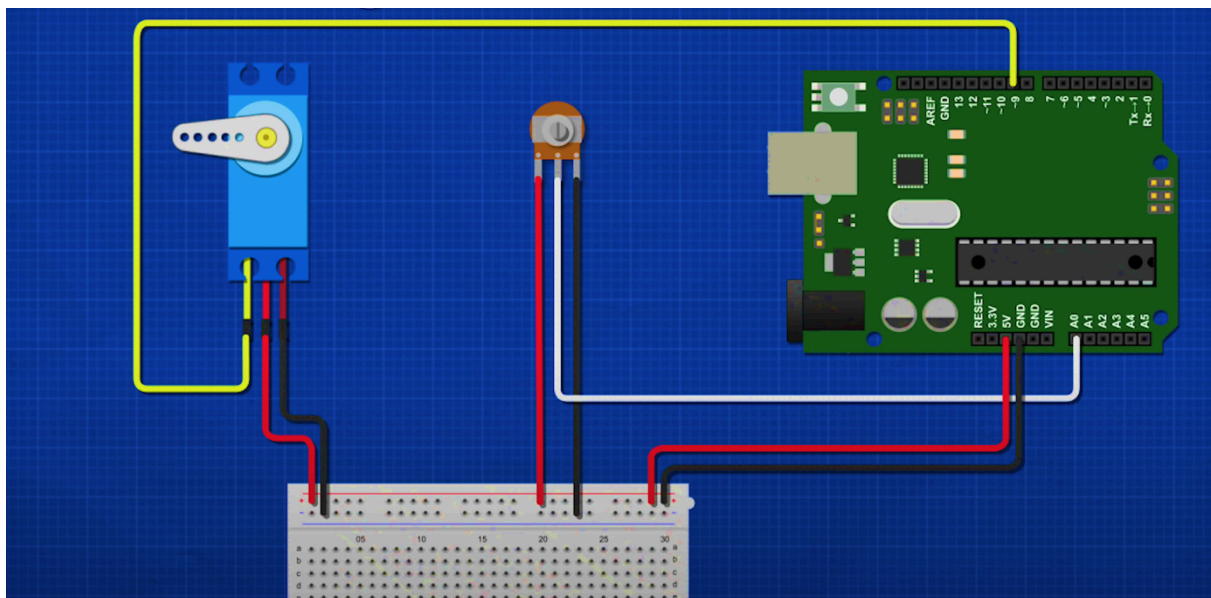
PROGRAM:

```
#include <Servo.h>

Servo Servo1;

int servoPin = 9;

int potPin = A0;

void setup()

{

        Servo1.attach(servoPin);

}

void loop()

{

        int reading = analogRead(potPin);

        int angle = map(reading, 0, 1023, 0, 180);

        Servo1.write(angle);

}
```
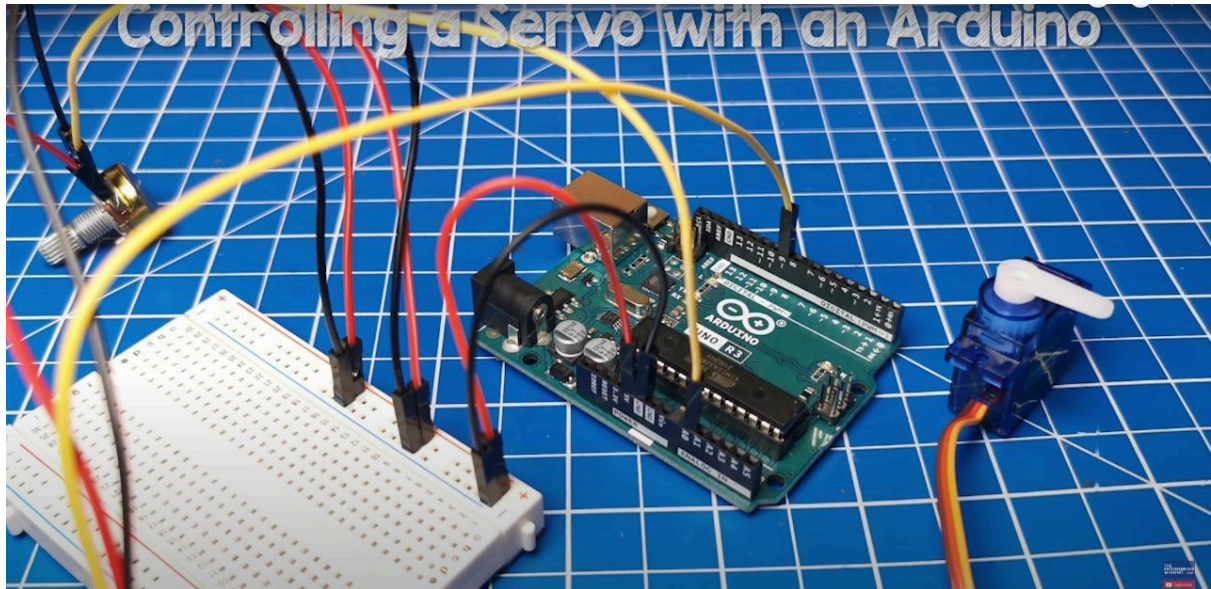
OUTPUT:

RESULT:

Thus, the above program to simulate servo motor using Arduino UNO board was executed and the output verified successfully.