Ex. No:	SERVO MOTOR (SWEEP MODE)
Date:	

AIM:

To control the movement of a servo motor using Arduino, by programming it to sweep back and forth between 0 to 180 degree continuously

COMPONENTS REQUIRED:

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

PROCEDURE:

Step1: Connect the Signal wire of the servo (usually yellow, orange, or white) to digital pin 9 on the Arduino.

**Step2:** Connect the Power pin (usually the Red) of the servo to VCC pin on the Arduino.

Step3: Connect the ground pin (usually the black or brown wire) of the servo to the GND pin on the Arduino.

Step4: Open the Arduino IDE on the computer. Then write the program.

Step5: Connect the Arduino to the computer via USB cable, select the correct board and port in the tool menu.

Step6: Upload the program to the Arduino board.

SCHEMATIC DIAGRAM:
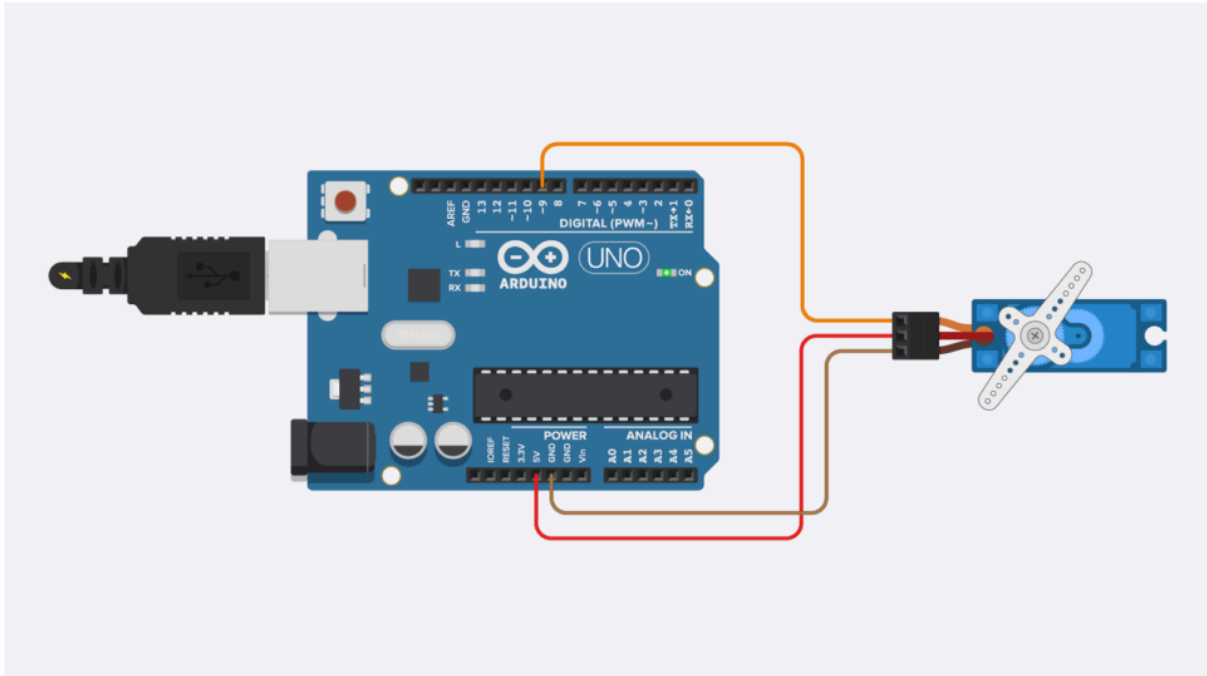
PROGRAM:

```
#include <Servo.h>

Servo myServo;   // Create a Servo object
int pos = 0;     // Variable to store the servo position

void setup() {
myServo.attach(9);  // Attach the servo to pin 9
}

void loop() {
  // Sweep from 0 to 180 degrees
  for (pos = 0; pos<= 180; pos++) {
myServo.write(pos);
delay(map(pos, 0, 180, 30, 5)); // Dynamic delay, starts slower and speeds up
 }

  // Sweep from 180 to 0 degrees
  for (pos = 180; pos>= 0; pos--) {
myServo.write(pos);
delay(map(pos, 0, 180, 5, 30)); // Dynamic delay, starts faster and slows down
 }
}
```
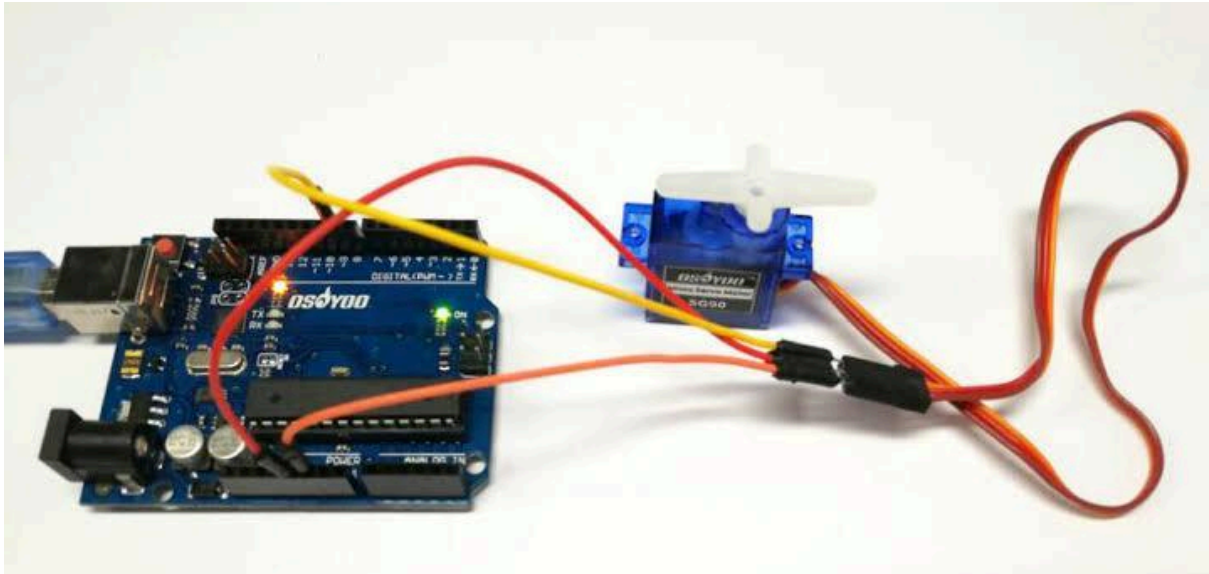
OUTPUT:

RESULT:

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