EXPERIMENT NO: 5

Roll No: ***Class: BE*** ***Division: A*** ***Date: / / 2024***

TITLE: Interfacing of DC motor with Arduino and program for speed control of dc motor using PWM.

AIM: Interfacing of DC motor with Arduino and speed control using PWM.

Task: Write a program to rotate dc motor in clockwise and anticlockwise using PWM.

Source Code:

```
#define DC1 11
#define DC2 13

void setup() {
  pinMode(DC1,OUTPUT);
  pinMode(DC2,OUTPUT);
  Serial.begin(9600);
}

void loop() {
  int i;
  //PWM
  //pin 11 is PWM pin we will use it to control speed and pin 13 will be on
either HIGH or LOW state permanently
  //clockwise
  digitalWrite(DC1,HIGH);
  digitalWrite(DC2,LOW);
  Serial.println("DC Motor is rotating in clockwise direction.");
  delay(5000);
  for(i=9;i<255;i+=20)
  {
    analogWrite(DC1,i);
    delay(1000);
    }

  //stop motor
  digitalWrite(DC1,LOW);
  digitalWrite(DC2,LOW);
  delay(2000);
  Serial.println("DC Motor stopped.");
  //counterclockwise
  digitalWrite(DC1,LOW);
  digitalWrite(DC2,HIGH);

  delay(5000);
  Serial.println("DC Motor is rotating in anti-clockwise direction.");
```

EXPERIMENT NO: 5

```
for(i=9;i<255;i+=20)
  {
    analogWrite(DC1,i);
    delay(1000);
    }

  //stop motor
  digitalWrite(DC1,LOW);
  digitalWrite(DC2,LOW);
  delay(2000);
  Serial.println("DC Motor stopped.");
}
```

Output:

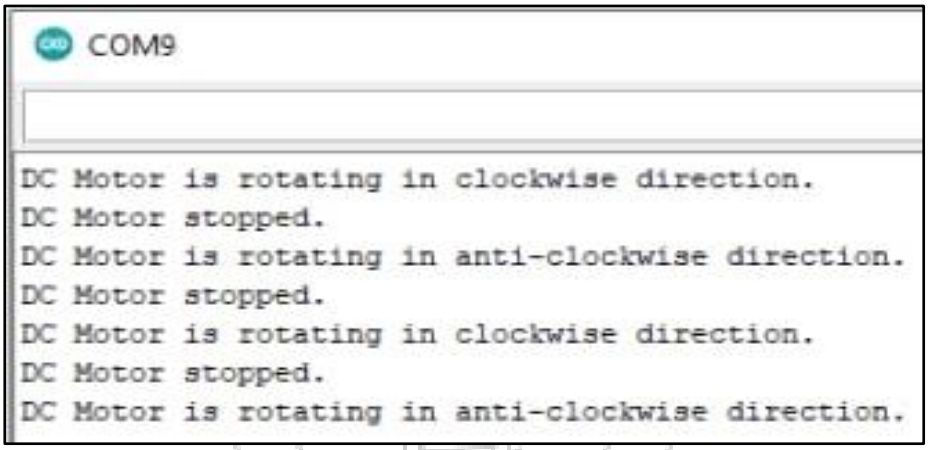

Fig 1 Serial Monitor Output

Observations: