Course Name: A-level (1ˢᵗ Sem.)   **Subject: IoT**

Topic: DC Motor with Arduino UNO   **Date: 11.05.2020**

There are three different type of motors −

- DC motor
- Servo motor
- Stepper motor

A DC motor (Direct Current motor) is converts electrical energy in the form of Direct Current into mechanical energy in the form of rotational motion of the motor shaft . DC motors have two leads, one positive and one negative. If you connect these two leads directly to a battery, the motor will rotate. If you change the polarity during connection with battery, the motor will rotate in the opposite direction.

Warning − Do not drive the motor directly from Arduino board pins. This may damage the board. Use a IC L293D Motor driver IC.

All details of L293D has been provided in previous lecture

Precautions

Take the following precautions while making the connections.

- First, make sure that the transistor is connected in the right way. The flat side of the transistor should face the Arduino board as shown in the arrangement.

- Second, the striped end of the diode should be towards the +5V power line according to the arrangement shown in the image.

Arduino Code

```
int motorPin = 3;

void setup() {
pinMode(motorPin,OUTPUT)

}

void loop() {

 //FORWARD MOTION
  digitalWrite(motorPin, HIGH);
  digitalWrite(motorPin, LOW);
 delay(1000);

//BACKWARD MOTION
  digitalWrite(motorPin, LOW);
  digitalWrite(motorPin, HIGH);
  dealy(1000);

//STOP
  digitalWrite(motorPin, HIGH/LOW);
  digitalWrite(motorPin, HIGH/LOW);
  delay(1000);
}
```