Activity 8: Potentiometer-controlled DC Motor

Description:
This circuit, we will use the potentiometer to control the speed of the DC motor.

Materials:

1 Arduino Uno R3
1 Breadboard
1 DC Motor
1 Potentiometer
Wires

Codes:

```
int fan = 5;
int poten = A0;
int fanSpeed;
int potenvalue = 0;

void setup()
{
  Serial.begin(9600);
  pinMode(fan, OUTPUT);
  pinMode(poten, INPUT);
}

void loop()
{
  Serial.println(potenvalue);
  potenvalue = analogRead(poten);
      fanSpeed = map(potenvalue, 0, 1023, 0, 255);
      analogWrite(fan, fanSpeed);
          delay(1000);
}
```

Explanation on Codes:

void setup()
{
 Serial.begin(9600);

- In the function "void setup()," we begin with initialization of serial data transmission with the code "Serial.begin" with a baud of 9600.

```
  pinMode(fan, OUTPUT);
  pinMode(poten, INPUT);
}
```

- Next, we declare our named pins or variables to be either input or output.

```
void loop()
{
  Serial.println(potenvalue);
```

- In the function, "void loop()" we started with sending the value "potenvalue" with the code "Serial.print."

potenvalue = analogRead(poten);

- Next, is the declaration of the name "potenvalue" as the analog reading on pin "poten" or "A0."

fanSpeed = map(potenvalue, 0, 1023, 0, 255);

- Here, the value of the "potenvalue" will be mapped.
- If the value of "potenvalue" is equal to 0, then it will be mapped to 0.
- If the value of "temp" is equal to 1023, then it will be mapped to 255.
- And the values in-betweens will be mapped to the values in-betweens.

analogWrite(fan, fanSpeed);

- Then the mapped values will be the output (as an analog) to the fan.

```
delay(1000);
}
```

- We end with a delay of 1 second or 1000 milliseconds for the circuit to have a time to accept the command in the circuit.