BEEE WORKSHEET

EXPERIMENT – 2.3

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NAME – **UID –**

SEMESTER – 2 **CLASS/GROUP –**

D.O.P – 22/03/2022 **SUBJECT CODE – 21ELH-101**

- -

1. Aim: To design simple DC motor control circuit.

2.Apparatus: ARDUINO UNO, DC motor, L293D, connecting wires. potentiometer.

3.Circuit Diagram:

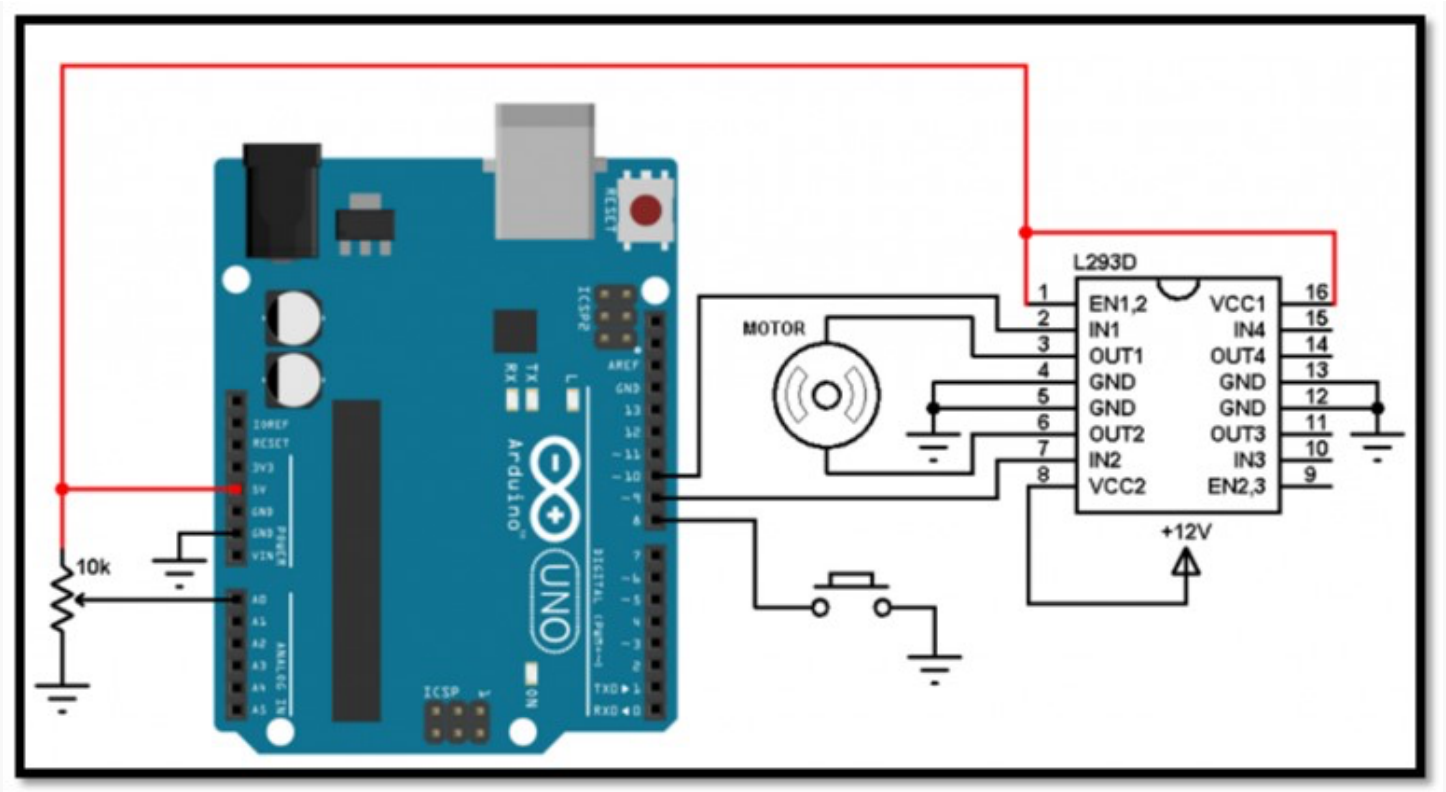


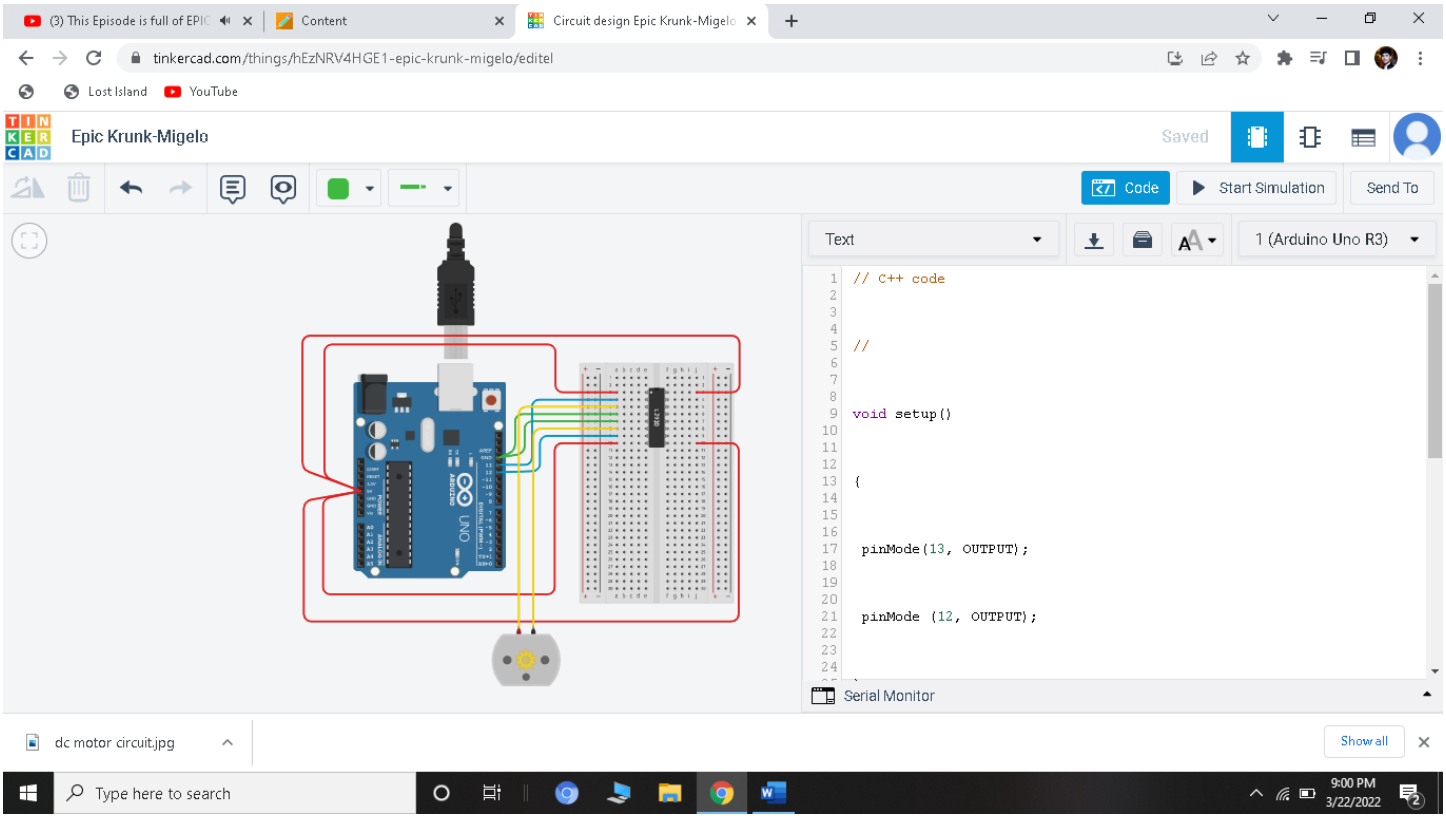
Fig.1 DC Motor Circuit

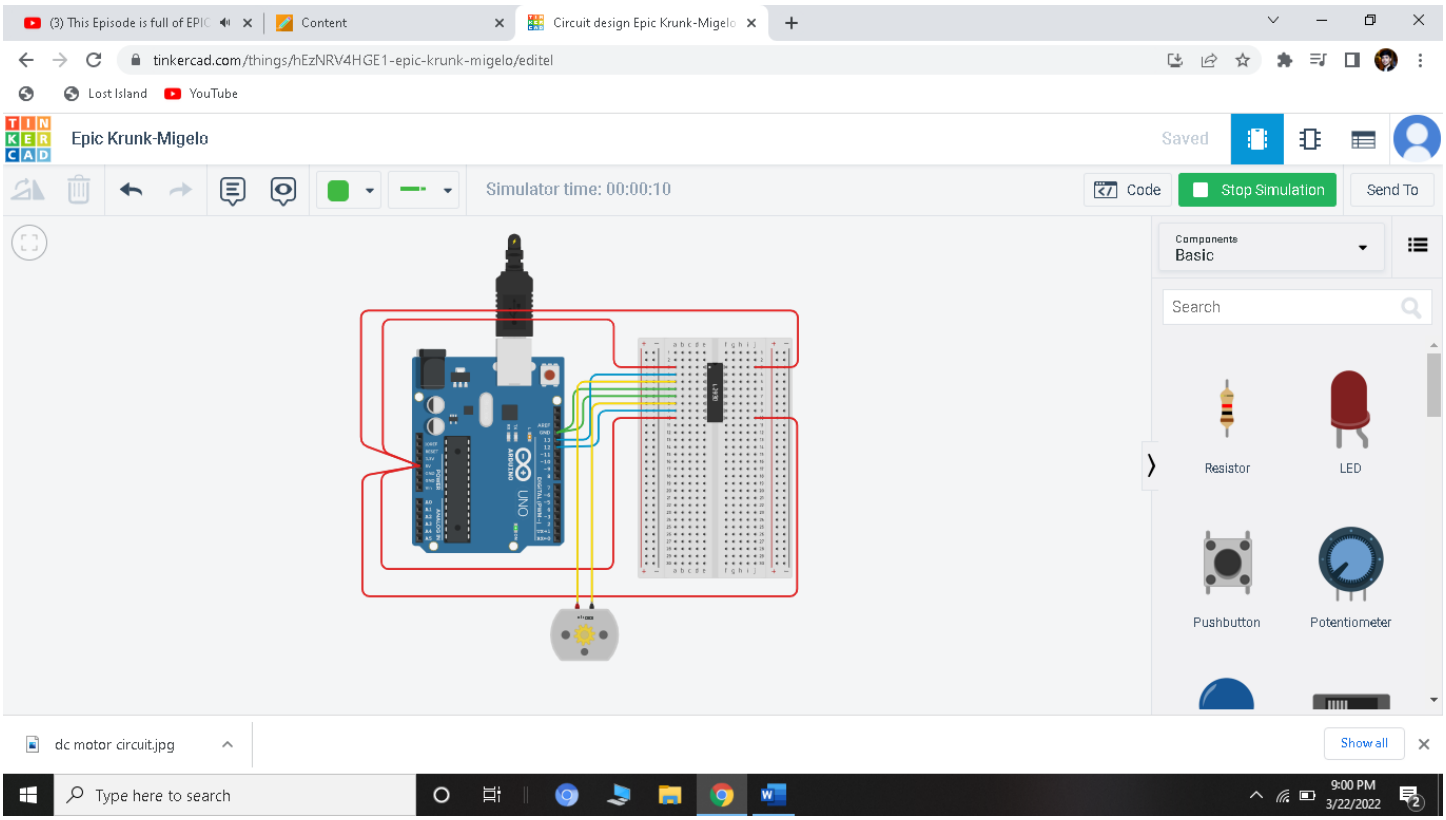
4.Program:

```
#define button  8

#define pot     0

#define pwm1    9

#define pwm2   10


boolean motor_dir = 0;

int motor_speed;


void setup() {

 pinMode(button, INPUT_PULLUP);

 pinMode(pwm1,  OUTPUT);

 pinMode(pwm2,  OUTPUT);
```

```
}


void loop() {
 motor_speed = analogRead(pot) / 4;
 if(motor_dir)
   analogWrite(pwm1, motor_speed);
 else
   analogWrite(pwm2, motor_speed);
 if(!digitalRead(button)){              // If direction button is pressed
   while(!digitalRead(button));         // Wait until direction button released
   motor_dir = !motor_dir;              // Toggle direction variable
   if(motor_dir)
     digitalWrite(pwm2, 0);
   else
     digitalWrite(pwm1, 0);
 }
}
```

5.Tinker Cad Result:


(3) This Episode is full of EPIC
Content
Circuit design Epic Krunk-Migelo
tinkercad.com/things/hEzNRV4HGE1-epic-krunk-migelo/editel
Lost Island
YouTube
Epic Krunk-Migelo
Saved
Code
Start Simulation
Send To
Text
1 (Arduino Uno R3)
// C++ code
//
void setup()
{
pinMode(13, OUTPUT);
pinMode (12, OUTPUT);
Serial Monitor
dc motor circuit.jpg
Show all
Type here to search
9:00 PM
3/22/2022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Lost Island
YouTube
Epic Krunk-Migelo
Saved
Simulator time: 00:00:10
Code
Stop Simulation
Send To
Components
Basic
Search
Resistor
LED
Pushbutton
Potentiometer
dc motor circuit.jpg
Show all
Type here to search
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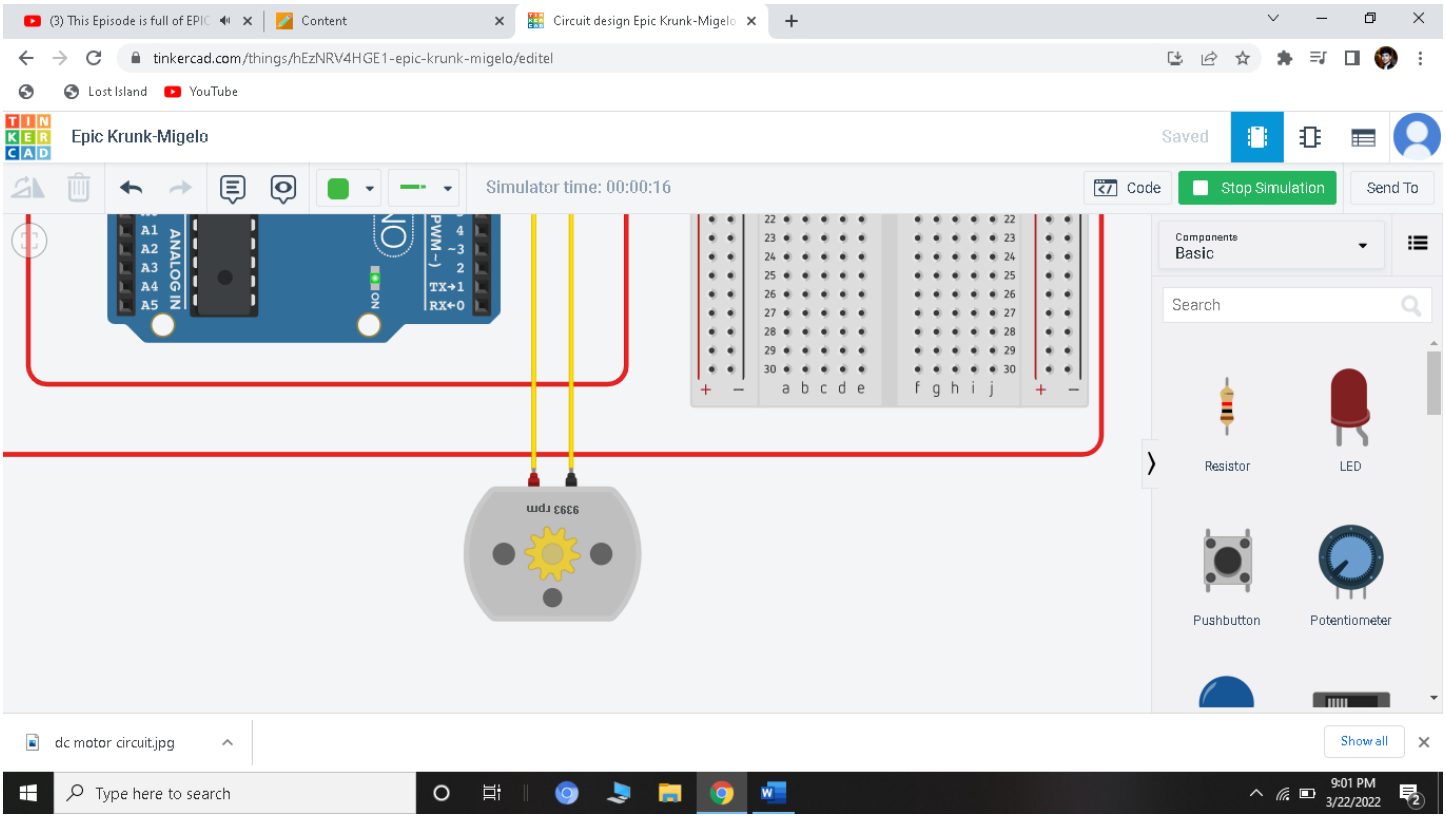
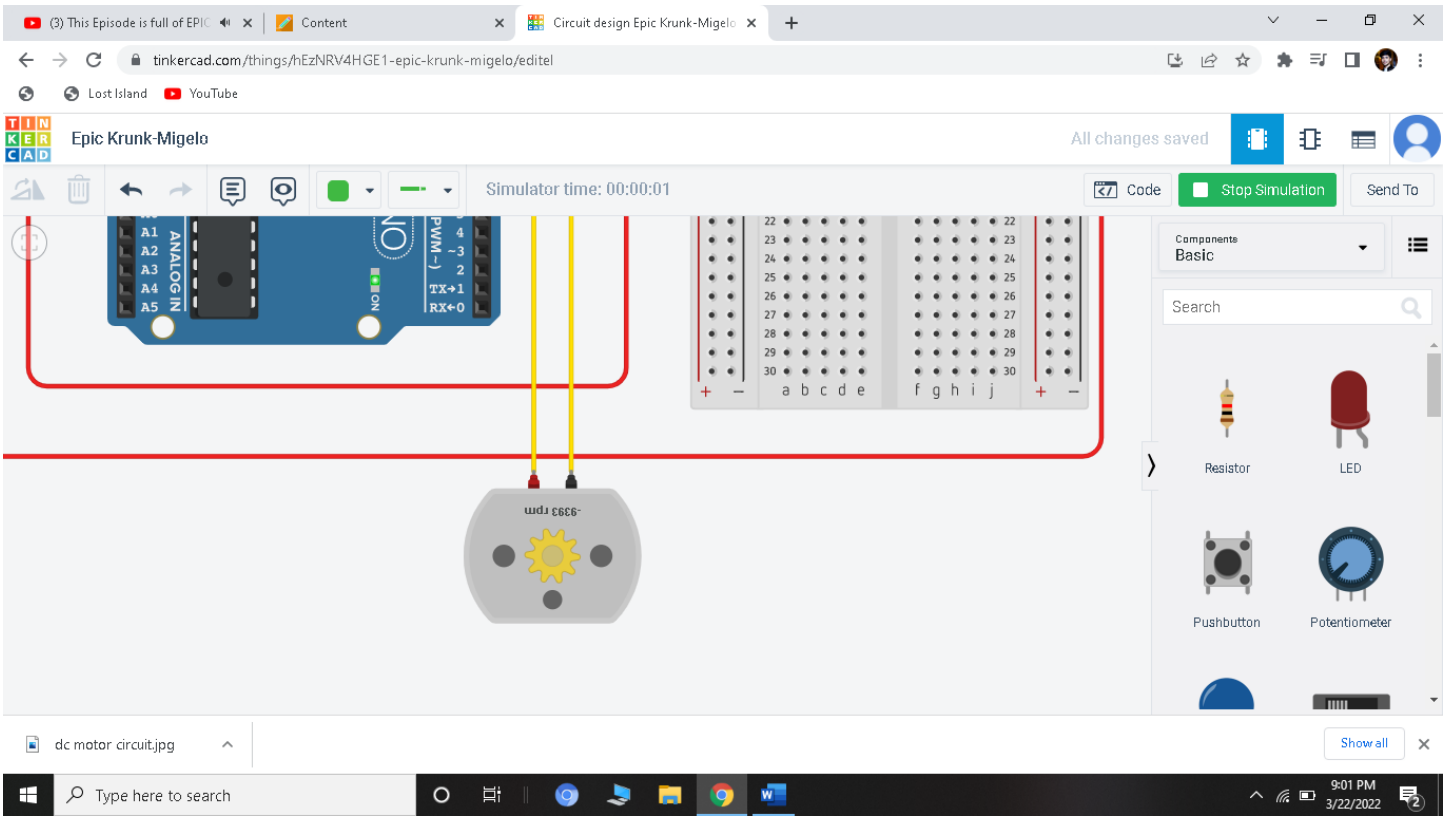
3/22/2022



When 13 is High; 12 is Low



When 12 is High; 13 is Low

6.Result: **Designing of simple DC motor control circuit using Arduino is verified after uploading the program.**

THANK YOU