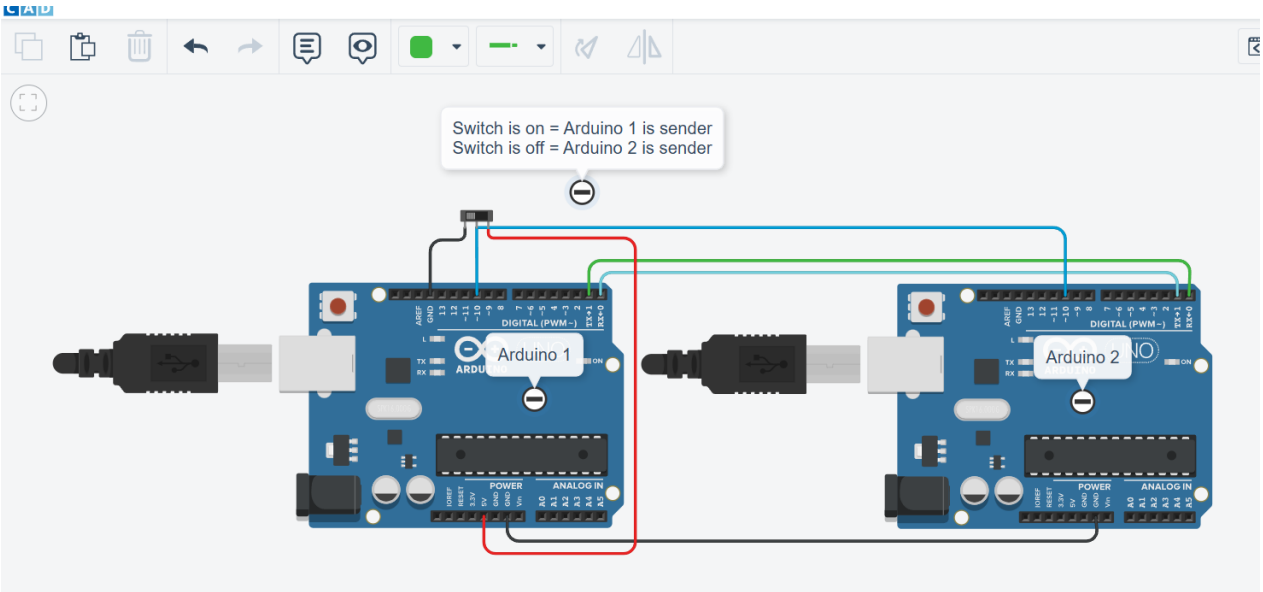
Experiment 12: Develop a program to setup a UART protocol and pass a string through the protocol.

Date : 23.10.2025

Circuit:



Code:

```
const int MAX_LEN = 100;

char send[MAX_LEN] = "IOT LAB FOR 7TH SEM\n";

char recieve[MAX_LEN];

int switch2 = 0; // Active LOW input

int switch_pin = 10;


void setup() {

        Serial.begin(9600);

        pinMode(switch_pin, INPUT);

}


void loop() {

        switch2 = digitalRead(switch_pin);
```

```
        if (switch2) {
                // recieve if switch is on
                int len = Serial.parseInt(); // read the length of string
        char garbage = Serial.read();
                Serial.readBytes(recieve, len); // read the string from the serial monitor.
                Serial.print("Length = ");
                Serial.println(len); // print the string length on serial monitor
                Serial.print("Message = ");
                Serial.println(recieve); // print the recieved message on serial monitor
                delay(1000);
        }
        else {
                // send if switch is off
                int len = strlen(send);
                Serial.println(len); // print/write the string length to the serial monitor
                Serial.write(send, len); // write the string to the serial monitor
                delay(1000);
        }
}
```

Output: