



PRACTICAL REPORT

For IoT Practical



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🚦 5.9 – Simple Analog and Digital Input

➔ Arduino Code:

```
const float referenceVolts = 5.0;

const int batteryPin = 0;

// the default reference on a 5-volt board
// battery is connected to analog pin 0

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

void loop()
{
    int val = analogRead(batteryPin); // read the value from the sensor
    float volts = (val / 1023.0) * referenceVolts; // calculate the ratio
    Serial.println(volts); // print the value in volts
}
```

➔ Output / Circuit Diagram:

The screenshot shows a Tinkercad workspace with an Arduino Uno board and an AA 1.5V battery. The battery is connected to the Arduino's power pins. The code on the right is as follows:

```
1 const float referenceVolts = 5.0;
2 const int batteryPin = 0;
3 // the default reference on a 5-volt board
4 // battery is connected to analog pin 0
5 void setup()
6 {
7   Serial.begin(9600);
8 }
9 void loop()
10 {
11   int val = analogRead(batteryPin); // read the value from the sensor
12   float volts = (val / 1023.0) * referenceVolts; // calculate the ratio
13   Serial.println(volts); // print the value in volts
14 }
```

The serial monitor displays the output: **Darshan Ramjiyani**.