PRACTICAL REPORT

For IoT Practical

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❖ 6.05 - Getting Input from Sensors

Measure how far objects are from the Arduino with more accuracy.

Arduino Code:

```cpp
const int ledPin = 13;
const int sensorPin = 0;
const long referenceMv = 5000;


void setup()
{
    Serial.begin(9600);
    pinMode(ledPin, OUTPUT);
}


void loop()
{
    int val = analogRead(sensorPin);
    int mV = (val * referenceMv) / 1023;
    Serial.print(mV);
    Serial.print(",");
    int cm = getDistance(mV);
    Serial.println(cm);
    digitalWrite(ledPin, HIGH);
    delay(cm * 10 ); // each centimeter adds 10 milliseconds delay
    digitalWrite(ledPin, LOW);
    delay( cm * 10);
    delay(100);
}


const int TABLE_ENTRIES = 12;
const int firstElement = 250;
const int INTERVAL = 250;
```

```c
static int distance[TABLE_ENTRIES] =
{150,140,130,100,60,50,40,35,30,25,20,15};


int getDistance(int mV)
{
    if( mV > INTERVAL * TABLE_ENTRIES-1 )
        return distance[TABLE_ENTRIES-1];
    else
    {
        int index = mV / INTERVAL;
        float frac = (mV % 250) / (float)INTERVAL;
        return distance[index] - ((distance[index] - distance[index+1]) *
frac);
    }
}
```

Circuit Diagram / Output: