

CS 307: Systems Practicum
Activity 8: Serial and Parallel Ports

To be done in class groups; due: before the end of the class on 29th Feb 2024

Q1. Please download install the Arduino IDE from here:

<https://www.arduino.cc/en/software>

[0.25]

Q2. Now, use the following code to read an analog value from analog port 0 of Arduino Uno:

```
// the setup routine runs once when you press reset:
void setup() {
  // initialize serial communication at 9600 bits per second:
  Serial.begin(9600);
}

// the loop routine runs over and over again forever:
void loop() {
  // read the input on analog pin 0:
  int sensorValue = analogRead(A0);
  // Convert the analog reading (which goes from 0 - 1023) to a voltage (0 - 5V):
  float voltage = sensorValue * (5.0 / 1023.0);
  // print out the value you read:
  Serial.println(voltage);
}
```

Please open the Arduino IDE and set the board ("Uno") and port before you compile and burn the code above into the Arduino Uno. [0.25]

Now, follow the tutorial here <https://www.youtube.com/watch?v=AHr94RtMj1A> to program a Python program to read the analog value from the respective serial port of your computer where Arduino Uno is connected. [0.25]

Optional bonus for an extra +0.50 mark:

Please see if we can send special characters and/or alphabets on the serial port to the Python program. Try different baud rates for Arduino Uno [0.50]