

# ME 210: Intro to Mechatronics

## PreLab1

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### **Question 0.1**

What are the values of resistors with the following color codes:

- (a) red red red:  $2.2 \text{ k}\Omega$
- (b) brown black red:  $1 \text{ k}\Omega$
- (c) yellow violet orange:  $47 \text{ k}\Omega$
- (d) brown black green:  $1 \text{ M}\Omega$

### **Question 0.2**

What are the values of the capacitors with the following designations?

- (a) 223:  $22 \times 10^3 \text{ pF} = 22 \text{ nF}$
- (b) 476:  $47 \times 10^6 \text{ pF} = 47 \text{ uF}$

### **Question 0.3**

- (a) Draw a schematic of the configuration you will use for Part 4 using KiCad.

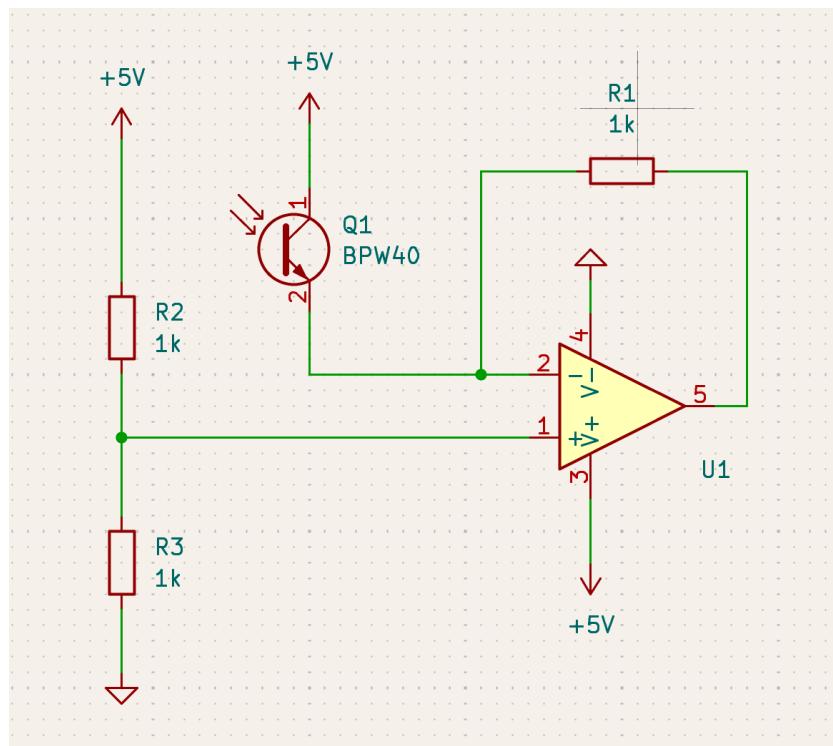


Figure 1: Waveform from adder\_tb.v

## Question 0.4

Write, compile, and upload a program that outputs “Hello, World!” to the serial terminal once every second on the Arduino.

```
1 void setup() {  
2     // put your setup code here, to run once:  
3     Serial.begin(9600);  
4     while(!Serial);  
5 }  
6  
7 void loop() {  
8     // put your main code here, to run repeatedly:  
9     Serial.println("Hello, World!");  
10    delay(1000);  
11 }
```

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