Question 1
Bartholomew wants to create a circuit that blinks LED_A and LED_B at alternating times (i.e. one of the two should always be on, but never both at the same time). Help him out!
- Use a dotted line to show top view stitching
- Write the code for the circuit
  - Example code to get you started is shown to the right

```
Example Code

// Blink
// Turns on an LED on for one second, then off for one second, repeatedly.
// This example code is in the public domain.
/*

Blink
Turns on an LED on for one second, then off for one second, repeatedly.

This example code is in the public domain.
*/

// Pin 13 has an LED connected on most Arduino boards.
// give it a name:
int led = 13;

// the setup routine runs once when you press reset:
void setup() {
    // initialize the digital pin as an output.
    pinMode(led, OUTPUT);
}

// the loop routine runs over and over again forever:
void loop() {
    digitalWrite(led, HIGH);  // turn the LED on (HIGH is the voltage level)
    delay(1000);              // wait for a second
    digitalWrite(led, LOW);   // turn the LED off by making the voltage LOW
    delay(1000);              // wait for a second
}
```
Question 2
Jill wants to create a circuit that turns the RGB LED turn green. Help her out!
- Use a dotted line to show top view stitching
Write the code for the circuit
- Example code, to get you started, is shown to the right

Example Code
/*
* Blink
* Turns on an LED on for one second, then off for one second, repeatedly.
* This example code is in the public domain.
*/

// Pin 13 has an LED connected on most Arduino boards.
// give it a name:
int led = 13;

// the setup routine runs once when you press reset:
void setup() {
    // initialize the digital pin as an output.
    pinMode(led, OUTPUT);
}

// the loop routine runs over and over again forever:
void loop() {
    digitalWrite(led, HIGH);  // turn the LED on (HIGH is the voltage level)
    delay(1000);              // wait for a second
    digitalWrite(led, LOW);   // turn the LED off by making the voltage LOW
    delay(1000);              // wait for a second
}
Question 3

Jack wants to make a smart backlight. To do so, he wants to turn on LED_A when there is bright ambient light.

Using the code on the right, he has found that when in the dark, the voltage value is 2 and when in the light the voltage value is 3. Create the circuit to complete this task and write the code.

- Use a dotted line to show top view stitching.

```cpp
int sensorPin = A5;

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

// the loop routine runs over and over again forever:
void loop() {
    // read the input on analog pin 0:
    int sensorValue = analogRead(sensorPin);
    // 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);
}
```

Example Code

/*
ReadAnalogVoltage
Reads an analog input on pin 0, converts it to voltage, and prints the result to the serial monitor.
Attach the center pin of a potentiometer to pin A0, and the outside pins to +5V and ground.
This example code is in the public domain.
* /
int sensorPin = A5;

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

// the loop routine runs over and over again forever:
void loop() {
    // read the input on analog pin 0:
    int sensorValue = analogRead(sensorPin);
    // 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);
}