Analyze the code sample provided in the appendix below to answer the following questions.

1. Summarize, at a high level, what the program does.

1. Explain, in more detail, what each of the specific code sections does. There are six code sections identified by comment lines and highlighted in blue.

1. Draw a diagram of the wiring diagram for the connection of LEDs to the Arduino board. Make sure to label and identify all pin numbers and assignments.

1. List all of the outputs of the program. Use a table similar to what you did in Module B.1. Make a table listing all of the outputs and their associated meaning.

1. List all of the inputs to the program. Use a table similar to what you did in Module B.1. Make a table listing all of the inputs and their associated action.

1. Provide an example of console input that would cause the program not to work properly. (i.e. Input that would cause an error.)

Start of Code Appendix

**// Code Section 1:**

const int redPin = 3;

const int greenPin = 5;

const int bluePin = 6;

void setup() {

**// Code Section 2:**

Serial.begin(9600);

pinMode(redPin, OUTPUT);

pinMode(greenPin, OUTPUT);

pinMode(bluePin, OUTPUT);

}

void loop() {

while (Serial.available() > 0) {

**// Code Section 3:**

int red = Serial.parseInt();

int green = Serial.parseInt();

int blue = Serial.parseInt();

// The character '\n' is a newline character appended to the typed in message   
 // from the serial console.

if (Serial.read() == '\n') {

**// Code Section 4:**

red = 255 - constrain(red, 0, 255);

green = 255 - constrain(green, 0, 255);

blue = 255 - constrain(blue, 0, 255);

**// Code Section 5:**

analogWrite(redPin, red);

analogWrite(greenPin, green);

analogWrite(bluePin, blue);

**// Code Section 6:**

Serial.print(red, HEX);

Serial.print(green, HEX);

Serial.println(blue, HEX);

}

}

}

\*\*\* End of Code Appendix