# Team Project

## CS383 - Computer Organization and Programming

To submit each assignment, upload your assembly code and videos of your project working.

1 Dice Roller

Connect 7 LEDs and a button to your Arduino. The LEDs should be arranged so that you can create all six sides of a die. Every time the button is pressed, your virtual die should show a random number in the same layout as a traditional die.
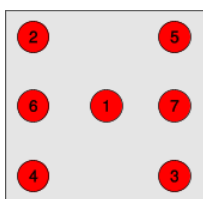
The layout for your LEDs
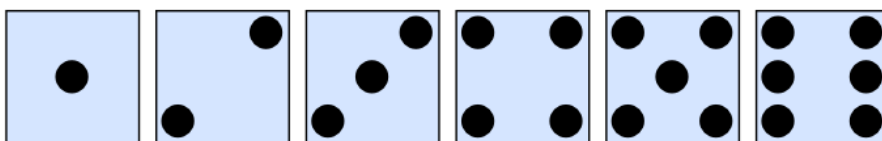
The layout of a traditional die for each result

2 Stoplight

Implement a stoplight using 3 LEDs: one red, one yellow, and one green. The LEDs should be lit in this order:

1. Red, for 10 seconds

2. Green, for 7 seconds

3. Yellow, for 2 seconds

Your stoplight should run forever, in an infinite loop.

3 Rock Paper Scissors

Rock-paper-scissors is a hand game usually played between two users, in which each player simulatenously forms one of three shapes with an outstreched hand. These shapes are "rock", "paper", and "scissors".

Create a small assembly program to allow the user to play against the Arduino. Use 3 buttons to get the user's input, and 3 LEDs to indicate the winner. Create a pseudo-random number representing the computer's choice. Be creative and use loops and time delays to simulate the creation of a random number.

The game has only three possible outcomes other than a tie: a player who decides to play rock will beat another player who has chosen scissors ("rock crushes scissors") but will lose to one who has played paper ("paper covers rock"); a play of paper will lose to a play of scissors ("scissors cuts paper").

If both players choose the same shape, the game is tied and is usually immediately replayed to break the tie.