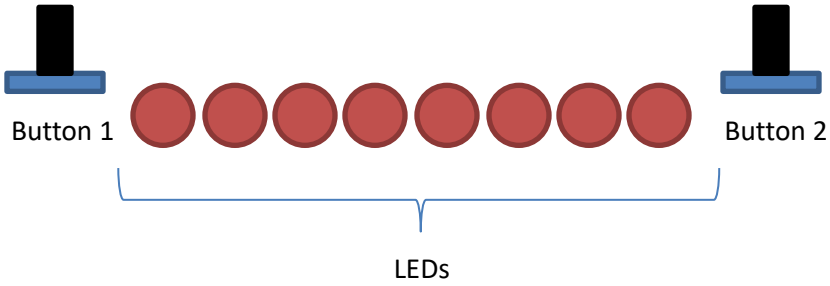
GAME of LEDS:

You need 8 LED's and 2 switches/buttons that are properly interfaced to your Arduino (i.e. USE resistors for each component).

At the end you will have something as follows:



Player X will use Button X. Game rules are defined below:

Rules:

In this game, it is about *sort of* shooting the other side. When a player pushes the button, LEDs will start to move (i.e. get lit) towards the other player. If the other player is able to press the button before the LED's reach the other player's end and meet somewhere they will cancel each other. In this case, no one gets any points. If LED's shot from one end reaches the other end before the other player shoots LED's on his/her end (i.e. press the button), shooter gets 1 point. If a player shoots before an already in progress shot is finalized (double firing), the opponent will get 2 points, the game restarts and that player will not be allowed to press again for a period of time where LEDs move for 5 positions.

Through serial monitor proper user feedback should be given for:

a- Score changes
b- Clashing shots cancelling each other – unprotected player warning
c- Penalty due to double firing

When a player reaches 5 points, that player is declared as winner and game ends and goes back to the main selection menu.

HINT (Optional): Polling is when you check an input continuously. You can actually use INTERRUPTS! You can start by reading on how to attach external interrupts to Arduino. It is important to note that interrupt handling functions should be written as short as possible so that another interrupt does not happened while the previous interrupt is being handled! If there is such a probability, your handler function better disable interrupts when it starts execution and re-enables them before exiting the handler function.