# Robots Assignment 3: Arduino Memory Game

In this assignment we were challenged to create our own tech tutorial of a desired choice of hardware and software. We decided to create an Arduino Memory game where LEDs would light up in a random sequence and the user would have to recreate this pattern by pressing the buttons underneath the LEDs. The game was introduced by a LCD screen where it describes when to start, difficulty settings and your results. The equipment we needed for this project was:

* 4 LEDs (red, yellow, green and purple)
* 3 breadboards
* Arduino Uno
* LCD screen
* 4 buttons
* 8 resistors
* 20-40 cables
* 1 power cable
* Power source (able with coding language)

For this, we had to create a code where LEDs would be activated individually in a random sequence and the buttons would be used afterwards to recreate this pattern. If the wrong sequence was made by the user with the buttons 3 times, then the game would reset and the player would have to try again. If the correct sequence was made, then the player could move onto the next stage and move to a more difficult level. The code also had to ensure that the LCD screen would introduce the game with difficulty options of 1-4 with 1 being the easiest and 4 being the hardest.