COL216 Assignment 3
User Interface for Reversi

<u>Input:</u> Embest board has the following for input

1) Sixteen blue buttons arranged in a keyboard 4 x 4 grid : We will use number 0-7 to input row and 8-15 to input column.
2) Two black buttons : Right black button will be used to reset/start game.

<u>Output:</u> Embest board has the following for output

1) Two red LED lights : These will show whose turn it is. Left for white Right for black. For illegal input both light will turn on.
2) One LCD display screen, which is a grid of 40 columns by 15 rows of individual cells : This will be used to display the game board.

<u>Procedure:</u>
1) Game starts when Right black button is pressed.
2) Red LED will show whose turn it is.
3) LCD will keep showing what is the configuration of the board
4) When game ends LCD displays score

High Level Implementation (Java)

```java
public class reversi{
   public static void main(String[] args){
      Board b = new board();
   }

}

//this function will be the main function that will act upon any move
public void move(int r, int c, Board b){

}

// Data type which stores the reversi board 'B'-Black 'W'-White '_'-Empty
public Board(){
   board = new char[][]{
      {'_','_','_','_','_','_','_','_',},
      {'_','_','_','_','_','_','_','_',},
      {'_','_','_','_','_','_','_','_',},
      {'_','_','_','W','B','_','_','_',},
      {'_','_','_','B','W','_','_','_',},
      {'_','_','_','_','_','_','_','_',},
      {'_','_','_','_','_','_','_','_',},
      {'_','_','_','_','_','_','_','_',},
   };
}

//Function that displays
public static char boardX[] = new char[]{'A','B','C','D','E','F','G','H'};
public void displayBoard(Board b){
   System.out.print("\n  ");
   for(int i=0;i<8;++i)System.out.print(boardX[i]+" ");
   System.out.println();
   for(int i=0;i<8;++i){
      System.out.print((i+1)+" ");
      for(int j=0;j<8;++j)
         System.out.print(b.board[i][j]+" ");
      System.out.println();
   }
```

```java
        System.out.println();
    }

//Displays who is winning at that moment
public string score(Board b){
    int white = 0;
    int black = 0;
    for(int i =0; i<8; i++){
        for(int j=0; j<8 ; j++){
            if(b.board[i][j] = 'W'){ white += 1;}
            else if (b.board[i][j] = 'B'){ black += 1;}
        }
    }
    return "Score- White= "+ white +" Black= "+ black;
}
```