```
Script started on 2023-11-03 21:20:42+00:00 [TERM="xterm-256color" TTY="/dev/pts/0" COLUM
NS="91" LINES="55"]
\[\033[01;34m\]\w\[\033[00m\]$ pwd
/home/runner/Lab-15-Minesweeper-Updating-the-Board-Initializatio-kcp3s
\[\033[01;34m\]\w\[\033[00m\]$ ls -la
total 52
drwxr-xr-x 1 runner runner   196 Nov  3 21:20 .
drwxrwxrwx 1 runner runner   166 Nov  3 20:37 ..
-rwxr-xr-x 1 runner runner 16864 Nov  3 20:38 a.out
-rw-r--r-- 1 runner runner  1493 Nov  3 19:30 Board.cpp
-rw-r--r-- 1 runner runner   278 Nov  3 20:37 Board.h
-rw-r--r-- 1 runner runner    17 Oct 27 20:51 .breakpoints
drwxr-xr-x 1 runner runner    12 Jan 24  2022 .cache
drwxr-x--- 1 runner runner   634 Oct 31 17:28 .ccls-cache
drwxr-xr-x 1 runner runner    68 Nov  3 20:34 .lesson
-rw-r--r-- 1 runner runner   228 Nov  3 19:27 main.cpp
-rw-r--r-- 1 runner runner     0 Nov  3 21:20 Patel_Lab_15.log
-rw-r--r-- 1 runner runner  1426 Dec 21  2022 .replit
-rw-r--r-- 1 runner runner    48 Nov  3 19:29 replit.nix
\[\033[01;34m\]\w\[\033[00m\]$ cat -n main.cpp
     1  #include "Board.h"
     2  #include <iostream>
     3
     4  int main() {
     5    std::cout << "\n---First Board Test---\n";
     6    Board play_area;
     7
     8    play_area.print();
     9    std::cout << "\n---Second Board Test---\n";
    10    Board play_area2;
    11    play_area2.print();
    12  }\[\033[01;34m\]\w\[\033[00m\]$ cat -n Board.cpp
     1  #include "Board.h"
     2  #include <cstdlib>
     3  #include <ctime>
     4  #include <iostream>
     5
     6  Board::Board() {
     7    for (int rows = 0; rows < ROW; rows++) {
     8      for (int cols = 0; cols < COLUMN; cols++) {
     9        board[rows][cols] = 0;
    10      }
    11    }
    12    place_mines();
    13  }
    14
    15  void Board::print() {
    16    std::cout << "|---|---|---|---|---|---|---|---|" << std::endl;
    17    for (int i = 0; i < ROW; i++) {
    18      std::cout << "| ";
    19      for (int k = 0; k < COLUMN; k++) {
    20        if (board[i][k] == 0) {
    21          std::cout << "M | ";
    22        } else {
    23          std::cout << board[i][k] << " | ";
    24        }
    25      }
    26      std::cout << "\n"
    27              << "|---|---|---|---|---|---|---|---|" << std::endl;
    28    }
    29  }
    30
    31  void Board::place_mines() {
    32    srand(time(0));
    33    int randrow;
    34    int randcol;
    35    int initial_mines = 0;
    36
    37    while (initial_mines < mine_count) {
    38      randrow = rand() % ROW;
```

```
39       randcol = rand() % COLUMN;
40       if (board[randrow][randcol] != 9) {
41         board[randrow][randcol] = 9;
42         initial_mines++;
43       }
44     }
45   }
46
47   void Board::update_counts() {
48     for (int i = 0; i < ROW; i++) {
49       for (int j = 0; j < COLUMN; j++) {
50         if (board[i][j] != 9) {
51           int counter = 0;
52           for (int r = -1; r <= 1; r++) {
53             for (int c = -1; c <= 1; c++) {
54               int rows = i + r;
55               int cols = j + c;
56
57               if (rows >= 0 && rows < ROW && cols >= 0 && cols < COLUMN &&
58                   board[rows][cols] == 9) {
59                 counter++;
60               }
61             }
62           }
63           board[i][j] = counter;
64         }
65       }
66     }
67   }\[\033[01;34m\]\w\[\033[00m\]$ cat -n Board.h
 1   #ifndef Board_H
 2   #define Board_H
 3   #include <array>
 4
 5   int const ROW{8};
 6   int const COLUMN{8};
 7
 8   class Board {
 9   private:
10     std::array<std::array<int, COLUMN>, ROW> board;
11     int mine_count = 10;
12     void place_mines();
13     void update_counts();
14
15   public:
16     Board();
17     void print();
18   };
19
20   #endif\[\033[01;34m\]\w\[\033[00m\]$ g++ main.cpp Board.cpp -o minesweeper
\[\033[01;34m\]\w\[\033[00m\]$ ./minesweeper
```

---First Board Test---

---	---	---	---	---	---	---	---
M	M	M	M	M	M	9	M
M	M	M	M	M	9	M	M
M	M	M	M	M	M	M	9
M	M	M	9	M	M	M	M
M	M	M	M	M	M	9	M
M	M	M	9	M	M	M	M
9	M	M	9	M	9	M	M
M	M	M	M	M	M	9	M

---Second Board Test---

M	M	M	M	M	M	9	M
M	M	M	M	M	9	M	M
M	M	M	M	M	M	M	9
M	M	M	9	M	M	M	M
M	M	M	M	M	M	9	M
M	M	M	9	M	M	M	M
9	M	M	9	M	9	M	M
M	M	M	M	M	M	9	M

\[\033[01;34m\]\w\[\033[00m\]$ ./minesweeper

---First Board Test---

9	M	M	M	M	M	M	M
M	9	M	M	M	M	M	M
M	M	M	M	M	M	9	M
M	M	9	M	M	9	M	M
M	M	M	M	M	M	M	9
M	M	M	9	M	M	M	9
M	M	M	M	M	M	M	M
M	9	M	9	M	M	M	M

---Second Board Test---

9	M	M	M	M	M	M	M
M	9	M	M	M	M	M	M
M	M	M	M	M	M	9	M
M	M	9	M	M	9	M	M
M	M	M	M	M	M	M	9
M	M	M	9	M	M	M	9
M	M	M	M	M	M	M	M
M	9	M	9	M	M	M	M

\[\033[01;34m\]\w\[\033[00m\]$ ./minesweeper

---First Board Test---

M	M	M	M	9	M	M	M
9	M	M	M	9	M	M	M
M	M	M	M	M	M	M	M
M	M	M	9	M	9	M	M
M	M	9	M	M	9	M	M

```
|---|---|---|---|---|---|---|---|
| M | 9 | M | M | 9 | M | 9 | M |
|---|---|---|---|---|---|---|---|
| M | M | M | M | M | M | M | M |
|---|---|---|---|---|---|---|---|
| M | M | M | M | M | M | M | M |
|---|---|---|---|---|---|---|---|
```

---Second Board Test---

```
|---|---|---|---|---|---|---|---|
| M | M | M | M | 9 | M | M | M |
|---|---|---|---|---|---|---|---|
| 9 | M | M | M | 9 | M | M | M |
|---|---|---|---|---|---|---|---|
| M | M | M | M | M | M | M | M |
|---|---|---|---|---|---|---|---|
| M | M | M | 9 | M | 9 | M | M |
|---|---|---|---|---|---|---|---|
| M | M | 9 | M | M | 9 | M | M |
|---|---|---|---|---|---|---|---|
| M | 9 | M | M | 9 | M | 9 | M |
|---|---|---|---|---|---|---|---|
| M | M | M | M | M | M | M | M |
|---|---|---|---|---|---|---|---|
| M | M | M | M | M | M | M | M |
|---|---|---|---|---|---|---|---|
```
\[\033[01;34m\]\w\[\033[00m\]$ ./minesweeper

---First Board Test---

```
|---|---|---|---|---|---|---|---|
| 9 | 9 | M | M | 9 | 9 | M | M |
|---|---|---|---|---|---|---|---|
| M | M | M | M | 9 | M | M | M |
|---|---|---|---|---|---|---|---|
| M | M | M | M | M | M | M | M |
|---|---|---|---|---|---|---|---|
| M | M | M | M | M | M | M | M |
|---|---|---|---|---|---|---|---|
| M | M | M | M | M | 9 | 9 | M |
|---|---|---|---|---|---|---|---|
| M | M | M | M | M | M | M | M |
|---|---|---|---|---|---|---|---|
| M | 9 | M | M | M | 9 | M | M |
|---|---|---|---|---|---|---|---|
| 9 | M | M | M | M | M | M | M |
|---|---|---|---|---|---|---|---|
```

---Second Board Test---

```
|---|---|---|---|---|---|---|---|
| 9 | 9 | M | M | 9 | 9 | M | M |
|---|---|---|---|---|---|---|---|
| M | M | M | M | 9 | M | M | M |
|---|---|---|---|---|---|---|---|
| M | M | M | M | M | M | M | M |
|---|---|---|---|---|---|---|---|
| M | M | M | M | M | M | M | M |
|---|---|---|---|---|---|---|---|
| M | M | M | M | M | 9 | 9 | M |
|---|---|---|---|---|---|---|---|
| M | M | M | M | M | M | M | M |
|---|---|---|---|---|---|---|---|
| M | 9 | M | M | M | 9 | M | M |
|---|---|---|---|---|---|---|---|
| 9 | M | M | M | M | M | M | M |
|---|---|---|---|---|---|---|---|
```
\[\033[01;34m\]\w\[\033[00m\]$ exit

Script done on 2023-11-03 21:22:28+00:00 [COMMAND_EXIT_CODE="0"]