```
Script started on 2024-03-15 16:25:07-05:00 [TERM="xterm-256color" TTY="/dev/pts/0" COLUMNS="161" LINES="39"]
[?2004h(base) ]0;jovyan@jupyter-tes4j: ~/CS2/Lab/Lab_13[01;32mjovyan@jupyter-tes4j[00m:[01;34m~/CS2/Lab/Lab_13[00m$ pwd
[?2004l
/home/jovyan/CS2/Lab/Lab_13
[?2004h(base) ]0;jovyan@jupyter-tes4j: ~/CS2/Lab/Lab_13[01;32mjovyan@jupyter-tes4j[00m:[01;34m~/CS2/Lab/Lab_13[00m$ ls -la
[?2004l
total 24
drwxr-sr-x  3 jovyan users 4096 Mar 15 16:25 [0m[01;34m.[0m
drwxr-sr-x 16 jovyan users 4096 Mar 15 14:40 [01;34m..[0m
-rw-r--r--  1 jovyan users 1240 Mar 15 16:24 Board.cpp
-rw-r--r--  1 jovyan users  552 Mar 15 16:20 board.h
drwxr-sr-x  2 jovyan users 4096 Mar 15 16:24 [01;34m.ipynb_checkpoints[0m
-rw-r--r--  1 jovyan users  214 Mar 15 16:24 minesweeper.cpp
-rw-r--r--  1 jovyan users    0 Mar 15 16:25 Sabin_Lab_13.log
[?2004h(base) ]0;jovyan@jupyter-tes4j: ~/CS2/Lab/Lab_13[01;32mjovyan@jupyter-tes4j[00m:[01;34m~/CS2/Lab/Lab_13[00m$ cat -n
board.h
[?2004l
     1  #ifndef BOARD_H
     2  #define BOARD_H
     3  #include <array>
     4
     5  const int kRowSize {8};
     6  const int kColSize {8};
     7
     8  class Board{
     9  private:
    10      std::array< std::array< int, kColSize>, kRowSize> arrBoard{};
    11      int mine_count{};
    12
    13  public:
    14      //default constructor
    15      Board();
    16      //function called place_mines; will randomly place mines on a board
    17      void place_mines();
    18      //function called revealed_board to display the board in 2-d fasshion
    19      void revealed_board();
    20
    21      //default destructor
    22      ~Board(){
    23          std::cout << "Board revealed\n";
    24      }
    25  };
    26
    27
    28  #endif[?2004h(base) ]0;jovyan@jupyter-tes4j: ~/CS2/Lab/Lab_13[01;32mjovyan@jupyter-
tes4j[00m:[01;34m~/CS2/Lab/Lab_13[00m$ cat -n Board.cpp
[?2004l
     1  #include <iostream>
     2  #include "board.h"
     3  #include <cstdlib>
     4  #include <ctime>
     5  #include <iomanip>
     6
     7
     8  //Loop through the array, and set the index to 0
     9  //Initialize mine_count to 10
    10  Board::Board(){
    11      for(int i{0}; i < kRowSize; i++){
    12          for(int j{0}; j < kColSize; j++){
    13              arrBoard[i][j] = 0;
    14          }
    15      }
    16
    17      mine_count = 10;
    18  }
    19
    20  void Board::place_mines(){
    21      //Seed the random number generator
    22      std::srand(static_cast<unsigned int>(std::time(nullptr)));
    23
    24      for(int i{0}; i < mine_count; i++){
    25          //Produce a random row and col
    26          int row = std::rand() % kRowSize;
    27          int col = std::rand() % kColSize;
    28
    29          //Check to see if the index is already a mine
    30          if(arrBoard[row][col] != 'M'){
    31              //If a mine is not present, place the mine
    32              arrBoard[row][col] = 'M';
    33          } else{
    34              //If no mine is placed, subtract one
    35              //As we did not place a mine
    36              i--;
```

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   37              }
   38          }
   39
   40  }
   41
   42  //Loop through the array, print out the index
   43  void Board::revealed_board(){
   44      for(int i{0}; i < kRowSize; i++){
   45          for(int j{0}; j < kColSize; j++){
   46              std::cout << std::setw(3) << arrBoard[i][j] << ' ';
   47          }
   48          std::cout << '\n';
   49      }
   50  }[?2004h(base) ]0;jovyan@jupyter-tes4j: ~/CS2/Lab/Lab_13[01;32mjovyan@jupyter-tes4j[00m:[01;34m~/CS2/Lab/Lab_13[00m$
can -n minesweeper.cpp
[?2004l
bash: can: command not found
[?2004h(base) ]0;jovyan@jupyter-tes4j: ~/CS2/Lab/Lab_13[01;32mjovyan@jupyter-tes4j[00m:[01;34m~/CS2/Lab/Lab_13[00m$ catr [K[K
-n minesweeper.cpp
[?2004l
    1  #include <iostream>
    2  #include "board.h"
    3  #include <cstdlib>
    4  #include <ctime>
    5  #include <iomanip>
    6
    7  int main(){
    8
    9      Board sampleBoard;
   10
   11      sampleBoard.place_mines();
   12      sampleBoard.revealed_board();
   13
   14
   15      return 0;
   16  }[?2004h(base) ]0;jovyan@jupyter-tes4j: ~/CS2/Lab/Lab_13[01;32mjovyan@jupyter-tes4j[00m:[01;34m~/CS2/Lab/Lab_13[00m$
g++ -Wall -Wextra -Weroor[K[K[Kror minesweeper.cpp Board.cpp -o sweep
[?2004l
[?2004h(base) ]0;jovyan@jupyter-tes4j: ~/CS2/Lab/Lab_13[01;32mjovyan@jupyter-tes4j[00m:[01;34m~/CS2/Lab/Lab_13[00m$ ./sweep
[?2004l
  0    0    0    0    0    0    0    0
  0    0    0   77   77    0    0    0
  0    0    0    0    0    0    0    0
  0    0    0    0    0    0   77    0
  0    0    0    0   77    0    0    0
  0    0    0    0    0    0    0   77
  0    0    0   77    0    0    0   77
 77   77    0    0    0   77    0    0
Board revealed
[?2004h(base) ]0;jovyan@jupyter-tes4j: ~/CS2/Lab/Lab_13[01;32mjovyan@jupyter-tes4j[00m:[01;34m~/CS2/Lab/Lab_13[00m$ ./sweep
[?2004l
  0   77   77    0    0    0    0    0
  0    0    0    0    0    0   77    0
  0    0   77    0    0    0    0    0
  0    0    0    0    0    0   77    0
 77    0    0    0   77    0    0    0
  0   77    0    0    0    0    0    0
  0    0    0    0    0   77    0    0
  0    0    0    0    0    0   77    0
Board revealed
[?2004h(base) ]0;jovyan@jupyter-tes4j: ~/CS2/Lab/Lab_13[01;32mjovyan@jupyter-tes4j[00m:[01;34m~/CS2/Lab/Lab_13[00m$ exit
[?2004l
exit

Script done on 2024-03-15 16:26:39-05:00 [COMMAND_EXIT_CODE="0"]
```