

Battleship

- Battleship is a game with an $M * M$ grid that has 'S' number of ships placed at specified positions on the grid.
- One ship occupies a single position on the grid.
- It takes a single shot to bring down the ship.
- Player has 'T' number of missiles.
- Score is decided based on the number of ships destroyed.

INPUT

The input for the game will be read from a file/console which contains the following (numbers below represent line numbers in input file)

1. Contains the size of the battleground 'M' ($0 < M < 10$)
2. Contains the number of ships 'S' which can be placed on the $M*M$ grid.
3. Ship positions in the grid, position represented by $x1,y1:x2,y2$ and so on
4. Tells 'T' the total number of missiles player has ($0 < T < M^2$)
5. Missiles fired at specified grid positions in the form: $x1,y1:x2,y2..$

Input

- M i.e GridSize [Matrix of $M*M$]
- S i.e TotalShips
- Ship Positions: $1,1:2,0:2,3:3,4:4,3$ (x,y pairs separated by colon)
- T i.e TotalMissiles
- moves: $1,1:2,0...$ (x,y pairs of length 'T')

Sample Input File:

```
5
5
1,1:2,0:2,3:3,4:4,3
5
0,1:0,0:1,1:2,3:4,3
```

Output

Output should be written to a file that should contain the following information:

- Grid after the battleship simulation.

- Alive Battleships denoted with “B”
- Dead Battleships with “X” (if missile hit the battleship) HIT
- Missile Missed Locations “O” (if the missile location didn’t have a ship) MISS

Sample output file:

```
O O _ _ _
_ X _ _ _
B _ _ X _
_ _ _ _ B
_ _ _ X _
```

Rules for the solution

- Code can be written in any Object oriented or functional language
- Code should be idiomatic
- You have 1.5 hours to complete the solution. **Remember we are not only looking at completing the solution, but also the approach one takes at solving it.** We will intermittently pair with you to check the solution.
- **Write good structured code that demonstrates craft.**
- Use Git version control to make frequent commits
- Please follow the directory structure convention of the language you use
- Follow Good coding practices and principles (These carry weightage in the review)