Battleship - Coding Problem

My Ships

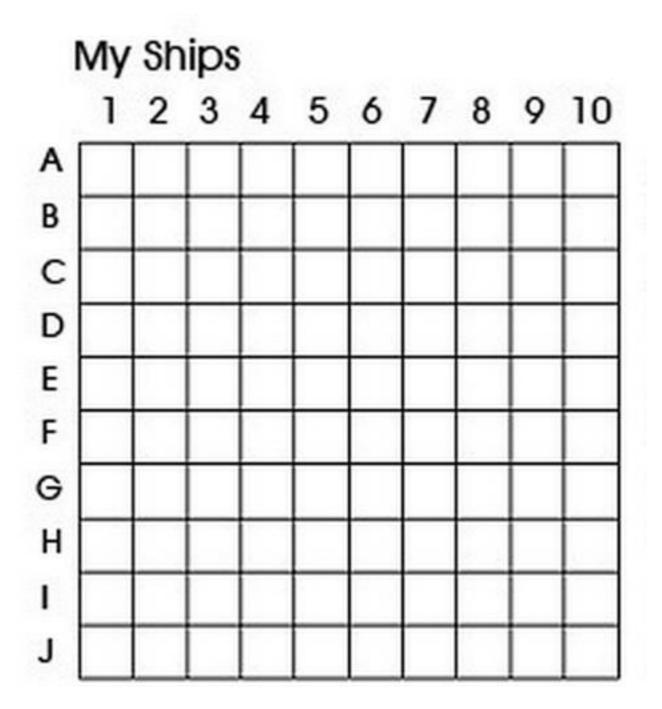|	1	2	3	4	5	6	7	8	9	10
A										
B										
C										
D										
E										
F										
G										
H										
I										
J										

A battleship game is played on a board 10X10. The top most left cell is called: A1. You will design a program to play this game of battleship against the computer. The rules are as follows:

1. At the start, the computer will randomly place 4 ships on the board. The ships can only be placed vertically or horizontally (and not diagonally). The ships cannot overlap. You will NOT know the position of the ships.

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2. On each turn, you get to "shoot" a location. If your shot, hits a ship, the computer will reply: "Hit". Else "Miss".

3. If all locations on a ship get hit, then the computer will say "Sink".

4. When all ships have been sunk, you WIN.

5. When you say — "I LOSE", the computer will print the board, with locations of ships, and the places where you had "shot".

The following are the ships and their sizes:

Carrier	5
Battleship	4
Submarine	3
Patrol	2

SAMPLE PROGRAM RUN
Enter a coordinate: H1
MISS
Enter a coordinate: F6
MISS
Enter a coordinate: F7
HIT
Enter a coordinate: F8
HIT
Enter a coordinate: F9
SINK
Enter a coordinate: I LOSE
<Prints the board and the program terminates>