Coordinate is a location in two-dimension table: {x, y}, data type int.

Battleships is a 10 X 10 two-dimension table as well, data type int.

Each Coordinate: 0: No ship >0: Ship number (ship identity) -1：Hit

Collection [Battleship]

Services: Reset, all coordinates = Blank:0

Deploy, all coordinates >0: Ship number (ship identity), get collection [Battleship]

Attack if (x,y) > 0 , (x, y) = -1 and Report Hit else Report Missed

Attack-Random: (100 times)

Attack-FromJsonFile: Attack.json

Game-over, Battleships count = Battleships Sunk count

Export:

Screen: output to screen directly

Log: output to files

Battleship:

Ship Number，must > 0

Sunk: True or False

Coordinates of ship, must be { {x, n1}, {x, n2}, {x, n3} ….} or { { n1, y}, {n2, y}, {n3, y} ….}

Services: Judge If Sunk： sum (Board [Coordinates] ) = - ship Coordinates count (all value are -1)

Deploy, all coordinates >0: Ship number (ship identity)

Deploy-Random: setup 0-10 ships

Deploy-FromJsonFile: BattleshipsDeployment.json

DeployCheck: