## **Board**

- + board1: Array
- + board2: Array
- + display\_matrix: Array
- + random matrix: Array
- + value matrix: Array
- + add column labels(): void
- + add row labels and color(): void
- + color\_matrix\_positions\_boat\_setup(move\_matrix, value\_matrix): void
- + color\_matrix\_positions\_board\_one(move\_matrix, value\_matrix): void
- + color\_matrix\_positions\_board\_two(value\_matrix): void
- + print\_single\_board(ammount): void
- + print\_double\_board(): void





## GameSetup

- + board: Board
- + current pos: Array
- + ammount: Array
- + direction: String
- + changed direction: boolean
- + value\_matrix: Array
- + move\_matrix: Array
- + update\_position(new\_pos, changed\_direction, boat\_length): void
- + add\_boat\_surrounding\_horizontol(row, col, boat\_length, i): void
- + add boat surrounding vertical(row, col, boat length, i): void
- + change\_value(boat\_length, direction): boolean
- + reset boat setup(): void
- + change\_direction(length): void
- + handle key event befor placement(event, length, selected boat): boolean
- + handle key event after placement(event): boolean
- + setup\_boats(): boolean

## Menu

- + optionen: Array
- + single\_player\_options: Array
- + multiplayer\_options: Array
- + display(): void
- + select\_option(): void
- + single\_player\_menu(): void
- + multiplayer\_menu(): void
- + leaderboard(): void
- + run(): void

## Game

- + board: Board
- + current\_pos: Array
- + move matrix: Array
- + win: boolean
- + confirm\_key: String
- + miss: boolean
- + is\_bot: boolean
- + handle\_keyboard\_event(matrix\_one, matrix\_two): boolean
- + update\_board(move\_matrix, matrix\_one, matrix\_two): void
- + move(matrix\_one, matrix\_two, direction): void
- + mark\_destroyed\_boat(matrix, row, col): boolean
- + check\_for\_game\_ending(value\_matrix): boolean
- + mark\_destroyed\_boat\_surrounding(value\_matrix): void
- + check for detroyed boats(row, col, value matrix): boolean
- + attack(value\_matrix, matrix\_two): boolean
- + bot(matrix\_player, matrix\_bot): boolean
- + singleplayer(player\_one\_matrix): boolean
- + multiplayer(player\_one\_matrix, player\_two\_matrix): boolean