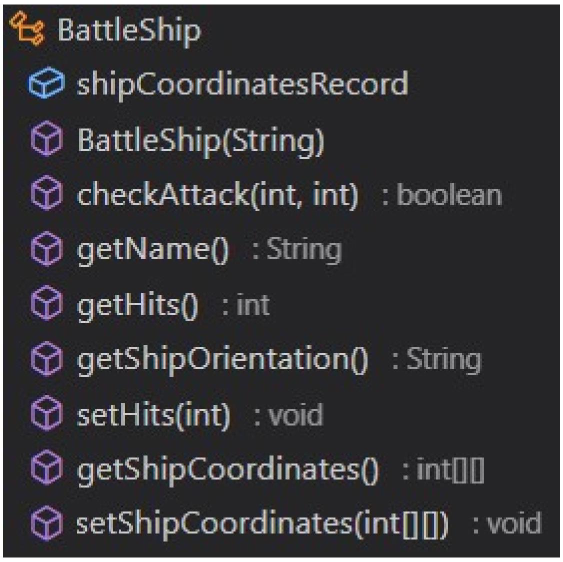
Report

Task

Task 1

Staus: **completed**

Outlining: create `BattleShip.java` and extends `AbstractBattleShip` class. In constructor, use Random object to defind the `shipOrientation` and init other params. Write the member functions which defind in `AbstractBattleShip`. Finish the `checkAttack` method. Check all possible situation. Defind a array `shipCoordinatesRecord` to record the coordinate which has been hit.

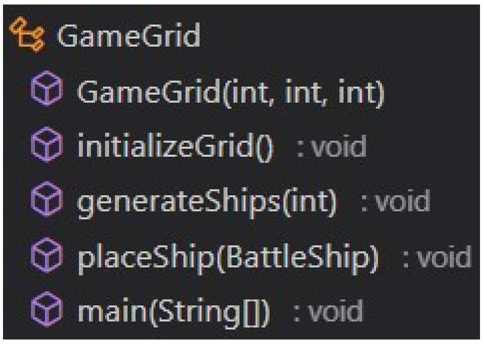


```
BattleShip
  shipCoordinatesRecord
  BattleShip(String)
  checkAttack(int, int)  : boolean
  getName()  : String
  getHits()  : int
  getShipOrientation()  : String
  setHits(int)  : void
  getShipCoordinates()  : int[][]
  setShipCoordinates(int[][])  : void
```

Task 2

Staus: **completed**

Outlining: Create `GameGrid.java` anad extends `AbstarctGameGrid`. Create the `initializeGrid()`. Finish the `generateShips()`. Finish the `placeShip()`. Create `PlayerGameGrid.java` and `OpponentGameGrid.java`, extends `GameGrid`. Defind `printGrid()` in them.

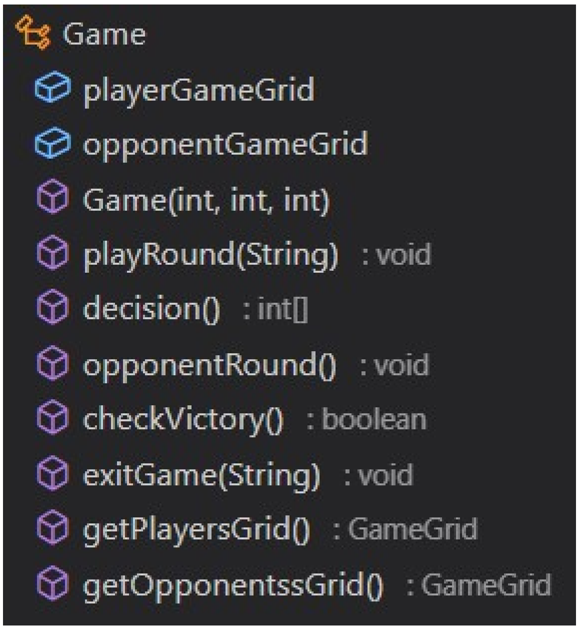


```
GameGrid
  GameGrid(int, int, int)
  initializeGrid()  : void
  generateShips(int)  : void
  placeShip(BattleShip)  : void
  main(String[])  : void
```

Task 3

Staus: **completed**

Outlining: Create `Game.java` and implement `GameControls`.create player's and opponent's grid and implement getter methods of them. Implement `exitGame()` method. Implement `checkVictory()`. Implement `playRound()` to make robot smart. In this case, oppenent decision depends on the probability which calculate from "X" coordinates. If all coordinates are less than or equal to 0, its decision depends on the probability which calculate from the number of unknown coordinates. Unfortunately, the fact is I will lose to the robot in most cases.

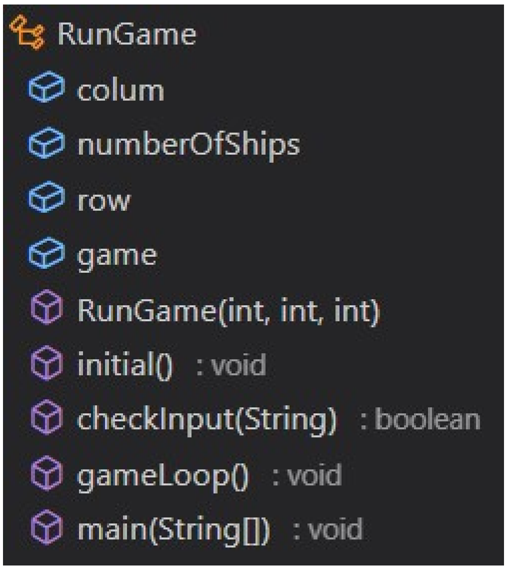


```
Game
  playerGameGrid
  opponentGameGrid
  Game(int, int, int)
  playRound(String)  : void
  decision()  : int[]
  opponentRound()  : void
  checkVictory()  : boolean
  exitGame(String)  : void
  getPlayersGrid()  : GameGrid
  getOpponentssGrid()  : GameGrid
```

Task 4

Staus: **completed**

Outlining: Create `RunGame.java` and start it by create a `Game` object. Use params to get the height, hight and the number of ships. Use while loop function to make sure rounds are loop. Use regex `^[0-9]+,[0-9]+$` to match corret input and use `exitGame()` function which in game object to check the `exit`.

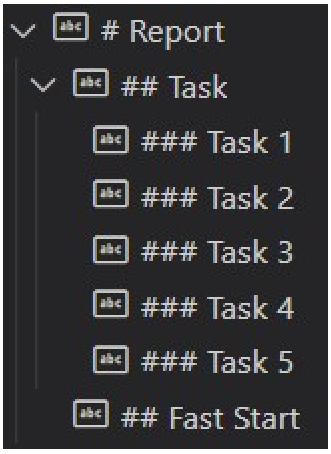


```
RunGame
  colum
  numberOfShips
  row
  game
  RunGame(int, int, int)
  initial()  : void
  checkInput(String)  : boolean
  gameLoop()  : void
  main(String[])  : void
```

Task 5

Staus: **completed**

Outlining: Conclude the tasks status and desribe each with a short words.



Report

Task

Task 1

Task 2

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Task 4

Task 5

Fast Start

Fast Start

Switch to the JAVA project root directory `assignment`

- package the project

```
mvn package
```

- run the jar with you params which are **height**, **width** and **number of ships**

```
java -jar .\target\assignment-1.0-SNAPSHOT.jar 5 5 3
```