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| **Project name: Programming Project 1** | |
| **Project description:** | 1. You are expected to write the program for the desktop using Java programming language, following MVC architecture. You will package the program with all the codes and create a repository in Github and submit the link. The program should be fully functional in any IDE. 2. Add a feature (for example, counter, timer, or randomly allocating ships or their size). 3. 3- Provide a document that represent your classes (Including properties and Methods) used to create objects and the relationship between the classes and methods calls. |
| **Project participants** | Kuan Hui Lee,  Tagle Rojan,  Puthenpurayil Rajappan Reshma Raj |
| **Potential risks** | 1. Team members have difficulty on meeting and hard to have communicate through internet. 2. The team has lack of communicate through communication platform. 3. The deadline is relevantly short to finish the project on time. 4. IntelliJ is a new computer software for part of teammates that this team becomes heavy. |
| **Meeting Schedule** | We meet on Discord for every weekends. |
| **How to Play** | 1. The user will be asked to place their own ships (horizontally or vertically, depending on the mouse button used) on the board. Five ships will be placed in the board varying in size. The first ship inserted is the largest, occupying 5 cells(squares), second ship occupies 4 cells, etc. 2. The user takes the first turn by clicking anywhere in the enemy’s board. If an enemy ship is hit, the user takes another turn. 3. After the user’s turn, the computer selects a cell from the players board to target. If a player ship is hit, the computer takes another turn. 4. Each player will take a turn in targeting the opponent’s ship. The player who sinks all of the opponent’s ship first wins! (5 cells(first ship)+4 cells(second ship)+3 cells(third ship)+2cells(fourth ship)+1cells(fifth ship)=15 cells to hit in total) |
| **Program structure** | BattleshipMain.java  Class – BattleshipMain  Properties:  boolean running  int shipstoPlace  boolean enemyTurn  Methods:  createContent()  enemyMove()  startGame()  start(Stage primaryStage)  main(String[] args)  Board.java  Class - Board  Properties:  boolean enemy  int ships  Methods:  Board(boolean enemy, EventHandler)  placeShip(Ship ship, int x, int y)  getCell(int x, int y)  getNeighbors(int x, int y)  canPlaceShip(Ship ship, int x, int y)  isValidPoint(Point2D point)  Class – Cell  Properties:  Int x,y  Ship ship  boolean wasShot  Board board  Methods:  Cell(int x, int y, Board board)  shoot()  Ship.java  Class – Ship  Properties:  int type  boolean vertical  int health  Methods:  Ship(int type, boolean vertical)  hit()  isAlive() |
| **Github URL** | <https://github.com/rojan429/battleship> |

