Platoon Battle Simulator

Project Overview

Platoon Battle Simulator is a Java console application that simulates battles between two armies, each consisting of 5 platoons. The goal is to arrange your platoons in a way that wins at least 3 out of 5 battles.

Each platoon belongs to a specific unit class and has a number of soldiers. Certain classes have advantages over others. When a class has an advantage over another, its soldier count is considered doubled in that specific battle.

Key Features

- Supports 6 unit classes with defined advantages.
- Accepts user and enemy platoons as input.
- Tries all permutations of your platoons to find a winning strategy.
- Prints the winning arrangement and detailed battle results.
- Clean, modular Java code ready for testing and extension.

Unit Classes and Advantage Rules

- Militia → Spearmen, LightCavalry
- Spearmen → LightCavalry, HeavyCavalry
- LightCavalry → FootArcher, CavalryArcher
- HeavyCavalry → Militia, FootArcher, LightCavalry
- CavalryArcher → Spearmen, HeavyCavalry
- FootArcher → Militia, CavalryArcher

(If a class has an advantage, its strength is doubled.)

How It Works

1. User inputs 5 platoons in the format: `Class#Count`, separated by `;`.
2. Enemy inputs their 5 platoons similarly.
3. The simulator checks all permutations of user platoons.
4. It calculates the outcome of each battle by comparing effective strengths.
5. The first arrangement that results in at least 3 wins is chosen and displayed.

Sample Input

Your Army:

```
Spearmen#10;Militia#30;FootArcher#20;LightCavalry#1000;HeavyCavalry#120
```

Enemy Army:

```
Militia#10;Spearmen#10;FootArcher#1000;LightCavalry#120;CavalryArcher#100
```

Sample Output

Winning arrangement:
Spearmen#10;Militia#30;FootArcher#20;LightCavalry#1000;HeavyCavalry#120

Battle Results:

Spearmen#10 vs Militia#10 => DRAW

Militia#30 vs Spearmen#10 => WIN

FootArcher#20 vs FootArcher#1000 => LOSS

LightCavalry#1000 vs LightCavalry#120 => WIN

HeavyCavalry#120 vs CavalryArcher#100 => WIN

Final Result: 3 Wins, 2 Losses or Draws

How to Run

1. Clone the repository:

   git clone https://github.com/PraveenNagaraj77/Platoon-Battle-Simulator.git
2. Navigate to the src directory.
3. Compile the Java code:

   javac com/praveen/battle/*.java
4. Run the simulator:

   java com.praveen.battle.BattleSimulator

```
Run    BattleSimulator  ×

C:\Users\HP\.jdks\ms-21.0.7\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2.0.2\lib\idea_rt.jar=50732:C:\Progra
=== Platoons Battle Simulator ===

Enter your 5 platoons (format: Class#Count;Class#Count;...):
Militia#30;Spearmen#30;FootArcher#30;HeavyCavalry#30;LightCavalry#30
Enter enemy's 5 platoons (format: Class#Count;Class#Count;...):
Militia#30;Spearmen#30;FootArcher#30;HeavyCavalry#30;LightCavalry#30
Winning arrangement: Militia#30;FootArcher#30;LightCavalry#30;Spearmen#30;HeavyCavalry#30

Battle Results:
Militia#30 vs Militia#30 => DRAW
FootArcher#30 vs Spearmen#30 => DRAW
LightCavalry#30 vs FootArcher#30 => WIN
Spearmen#30 vs HeavyCavalry#30 => WIN
HeavyCavalry#30 vs LightCavalry#30 => WIN
|
Final Result: 3 Wins, 2 Losses or Draws

Run another simulation? (yes/no):
```