Programming Assignment

⟳ Status	Not Started
👥 Assign	Empty
🗓 Due	Empty
↗ Child	Empty
↗ Parent	Empty
⊙ Project	Empty

Assignment: A Boardgame Application

Objective:

Develop a simple boardgame application called "Rat race".

Description:

Problem Statement: The game consists in a board made of 50 squares, 2 to 6 players represented by colored tokens shaped as mice, and 2 six-sided dice.

All players (represented by their tokens) start from the initial square, and take turns one at the time following an initial order decided arbitrarily.

A player turn consists of rolling both dice and advancing on the board a number of squares equal to the sum of the two face-up sides of the two dice. A round consists in all players taking the same turn.

Players have initially 15 Hit Points (HP).

Squares are numbered from 1 to 50.

By landing on squares 10, 20, 30, 40, and 50 a player falls into a trap and loses 5 HP. If a player's HP fall below 0, the player is eliminated from the game.

By landing on squares 5, 15, 25, 35, and 45 a player heals 5 HP. A player cannot heal further once reached 15 HP.

Game ends at the end of the round in which one of the players will land beyond square 50.

Tasks:

Task 1: among the abstractions suggested by the description above, choose the candidate classes and explain the reasons of your choice.

Task 2: implement the boardgame. In particular:

- **User Interface**:

  - there will be no input.

  - output will be visible on the console and will be text containing information about each player name and square reached at game end.

- **Source Code**: Well-organized and documented code.

- **Test Cases**: Comprehensive test cases to validate the application's functionality.

Extensions (Optional):