

Clean Code Course Project

This project represents a primitive computer game where different players can be located in two spaces (2-dimensional or 3-dimensional) and attack each other under specific conditions.

Class Point2D – represents a location (point) in 2-dimensional space with coordinates (x, y); functionality for finding the distance between two locations (points) is provided (method `getDistanceTo`)

Class Point3D - represents a location in 3-dimensional space with coordinates (x, y, z); functionality for finding the distance between two locations in the 3-dimensional space is provided (method `getDistanceTo`)

Abstract Class Entity – the entity can be a real player, non-player character (NPC), or mob (Enum type is responsible for defining each of the marked entities). Each entity has a unique identification number, a name and a location which can be either the 2-dimensional space or the 3-dimensional space. Functionalities include checking the condition of the player (method `isAlive`), finding the distance between two entities (the distance can be calculated in the aspect of only the 2-dimensional space (method `getDistanceToIn2D` – the locations are treated only as 2D) or in mixed dimensions) and relocating entities (method `moveTo` with 2 possible parameter options).

Class Player – it is a type of entity but also includes characteristics as damage (that can be dealt to other entities) and health. A player can attack another player or a mob (method `attack`) only if the distance is fewer than 5 units and the subject to be attacked is alive.

Class Mob – it is a type of entity, which can also deal damage and has limited health.

Class NPC – an abstract entity with enum type NPC (non-player character).

Class Environment – its role is to keep a heterogeneous container with different entities. Functionality include adding an entity, finding and removing an entity, generating and destroying entities and getting the closest alive entity (method whose parameters are Player and Type and returns the closest alive entity to the specified Player).

A main program illustrates some of the functionalities.