



HACETTEPE UNIVERSITY

Author: Muhammed Görkem KOLA

ID: b2200765032

Lecturers: Sevil ŞEN, Cemil ZALLUHOĞLU

Teaching Assistants: Bahar GEZİCİ, Merve ÖZDEŞ

REPORT OF ASSIGNMENT3

FACULTY OF ENGINEERING

DEPARTMENT OF COMPUTER ENGINEERING



2020-2021 Spring Semester

2021.16.04

1 PROBLEM-SOLUTION

1. Problem:

The problem is making a board game. There are 2 sides in this game, first side is named Zorde, second side is named Calliance.

We have informations about their Max Health Points, Attack Points, Movings, Special Powers and when they attack.

2. Solution:

When I was reading the Assignment3 pdf I was thinking about using about for game zone but then I realize it would be easier using 2D Arrays and I created the game board using ArrayList.

I created Character classes and then File class to read and to write then I created board then read the initials and put characters in the initials to the board then read the commands file and made the functions.

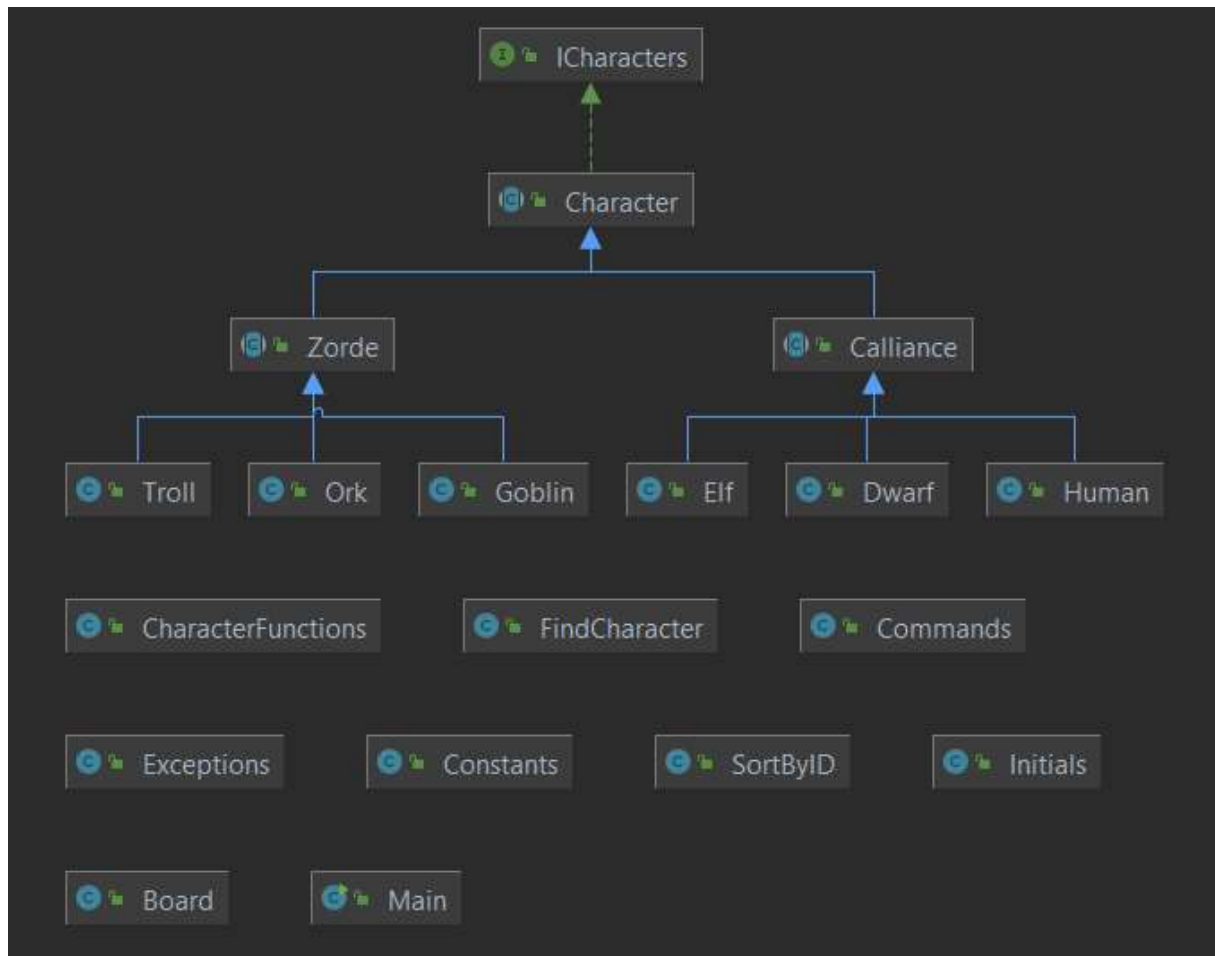
I wanted my code structure to be readable and then created packages and refactored classes.

There are 6 packages in the structure and one of the have 2 packages too.

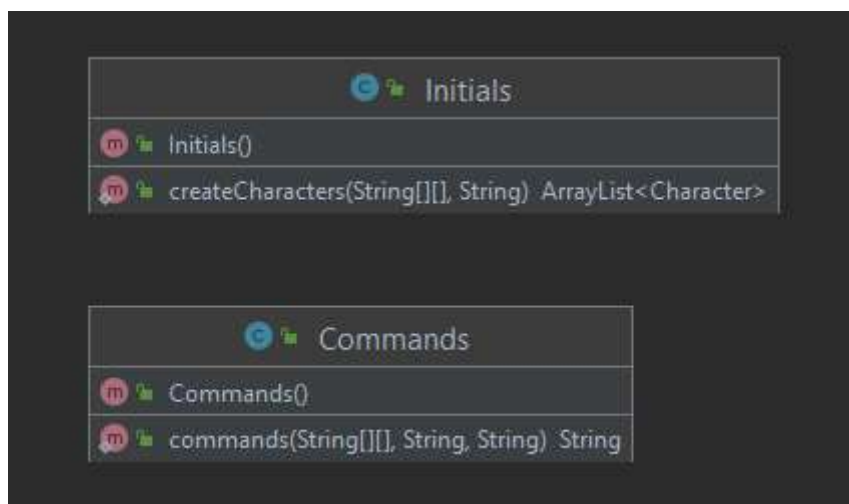
There are 18 class and one interface in the structure.

There are lots of comment lines for code is to be readable.

2 CLASS DIAGRAMS

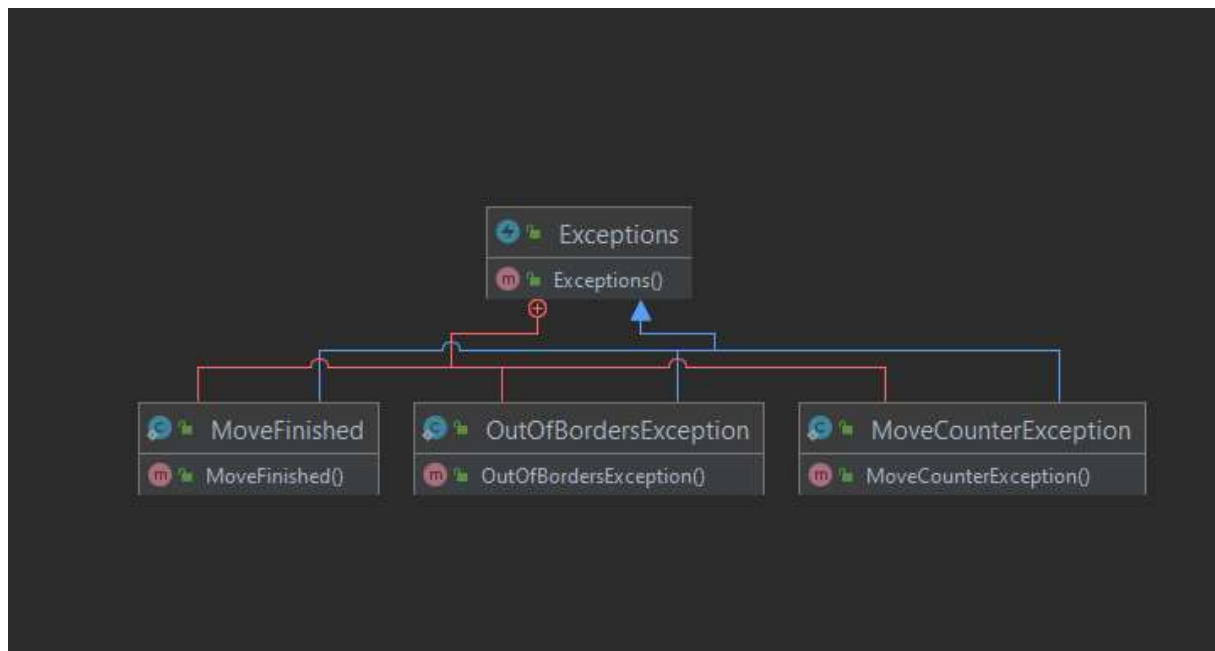


1. Args Package:



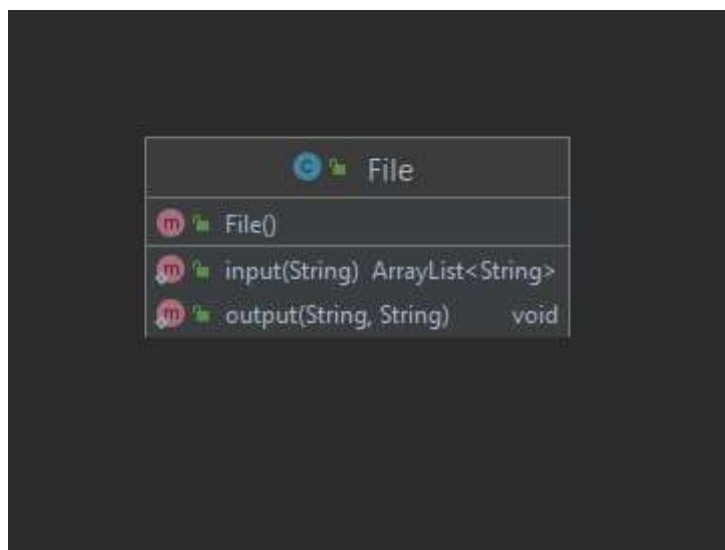
- Commands class is to read the commands.txt and returns a string that will be printed on output.txt
- Initials class is to read initials.txt and put the characters on the board.

2. Exception Package:



- Exceptions class has 3 inner classes because it is more readable Like this.
- MoveFinished class is to finish move when something goes wrong.
- OutOfBordersException class is to finish move when a character wants to go out of the board.
- MoveCounterException class is to finish move if a move sequence length is not equals move number of a character.

3. File Package



- This class is to read files and write files.

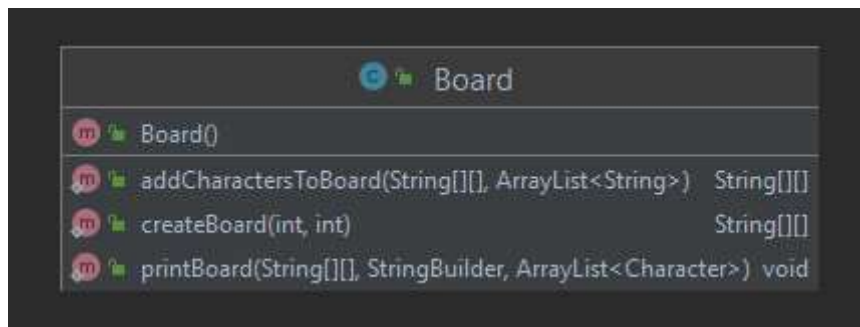
4. Functions package

The screenshot displays the API for the Functions package in IntelliJ IDEA. It shows three classes: CharacterFunctions, FindCharacter, and SortByID. Each class is listed with its methods and return types.

Class	Method	Return Type
CharacterFunctions	CharacterFunctions()	
	fightToDeath(Character, Character, ArrayList<Character>, String[][], int, int, int, int)	void
	heal(String[][], ArrayList<Character>, int, int)	void
	normalAttack(String[][], ArrayList<Character>, int, int)	void
	rangedAttack(String[][], ArrayList<Character>, int, int)	void
FindCharacter	FindCharacter()	
	findCharacterForFunctions(String[][], ArrayList<Character>, int, int, int)	ArrayList<Object[]>
	returnCharacter(String[][], String, ArrayList<Character>)	Object[]?
SortByID	SortByID()	
	compare(Character, Character)	int

- CharacterFuntions provides all characters to attack and fight to death, provides ork to heal, provides elf to make range attack.
- FindCharacter have 2 functions that finding a character and returns information of it and finding a group of characters and returns information of them.
- SortByID sorts characters with using their ids.

5. Map Package



- Board class has 3 functions that creating board, adding characters to the board printing board.

6. Pieces Package



- ICharacters is an interface that keeps the functions of Character.
- Character is a class for characters
- Constants holds characters AP HP and Max move
- Zorde Package holds 4 class for zordes
- Calliance Package holds 4 class for calliance