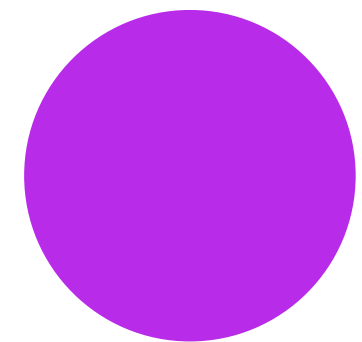
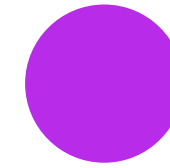


**OOP 2024 Project**

# **Risk**

Nane Andreasyan



A stylized world map with a parchment-like background, showing various regions and countries color-coded and labeled. The map includes North America (Alaska, North West Territory, Alberta, Ontario, Quebec, Western United States, Eastern United States, Central America), South America (Venezuela, Brazil, Peru, Argentina), Europe (Greenland, Iceland, Scandinavia, Ukraine, Great Britain, Northern Europe, Southern Europe, Western Europe), Africa (North Africa, Egypt, East Africa, Congo, South Africa, Madagascar), Asia (Siberia, Ural, Afghanistan, Mongolia, China, India, Siam, Japan), and Oceania (New Guinea, Indonesia, Eastern Australia, Western Australia).

## 6 Territories

**42 Continents**

**5 Turns**

**4 Players**

## Action Cards

## Army Cards

# Game Play

The game starts with each player having 30 armies.

The order of players is decided by dice roll in descending order.

During the first turn each player needs to claim territories by placing armies in each territory. If one player places an army in the territory, another player can't claim it during the first turn.

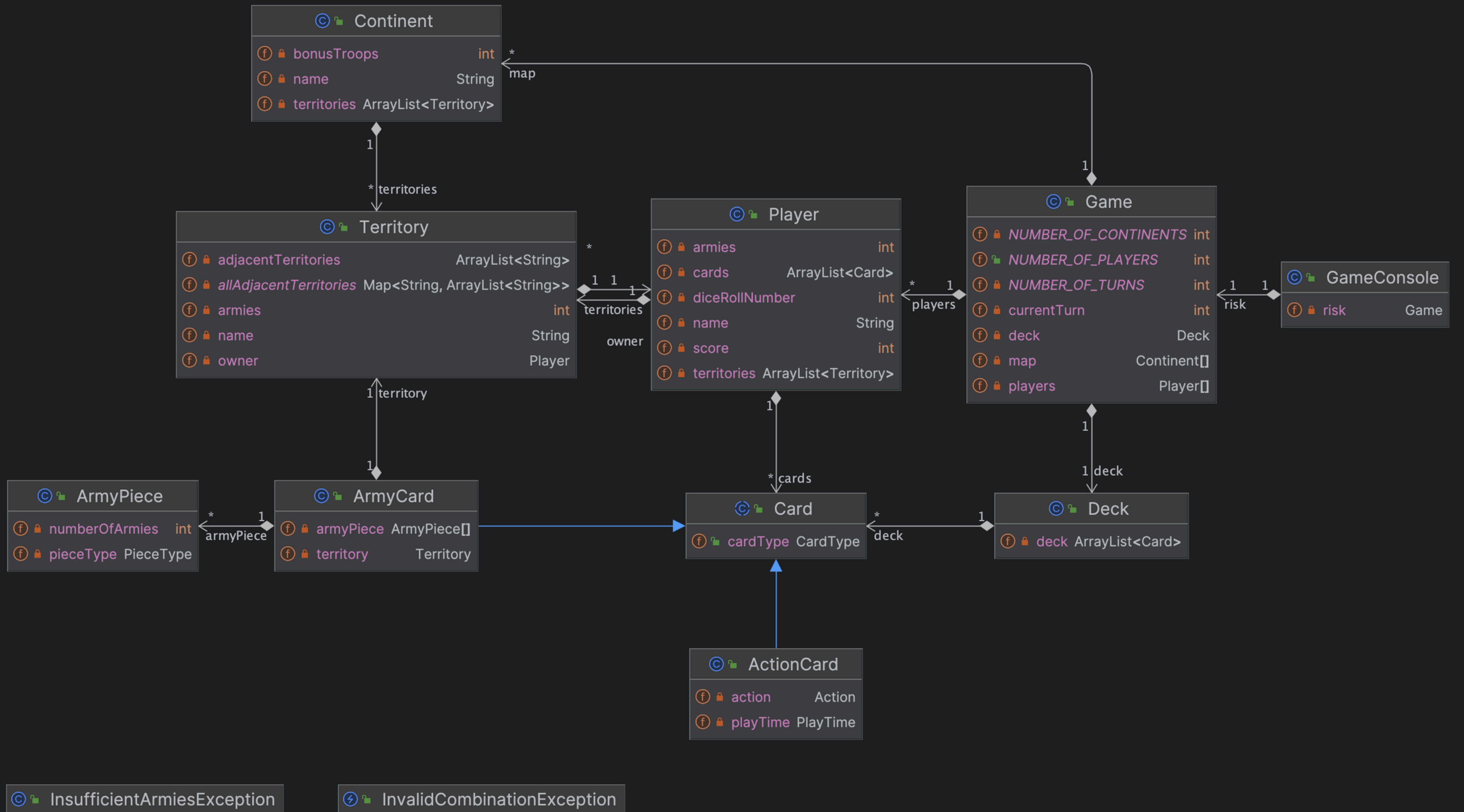
After all territories are claimed, players start their actual turn. During each turn, the player can:

- Get armies by trading cards
- Place armies
- Fortify territories.
- Attack. The attack continues until all eligible armies are used or the territory is claimed.

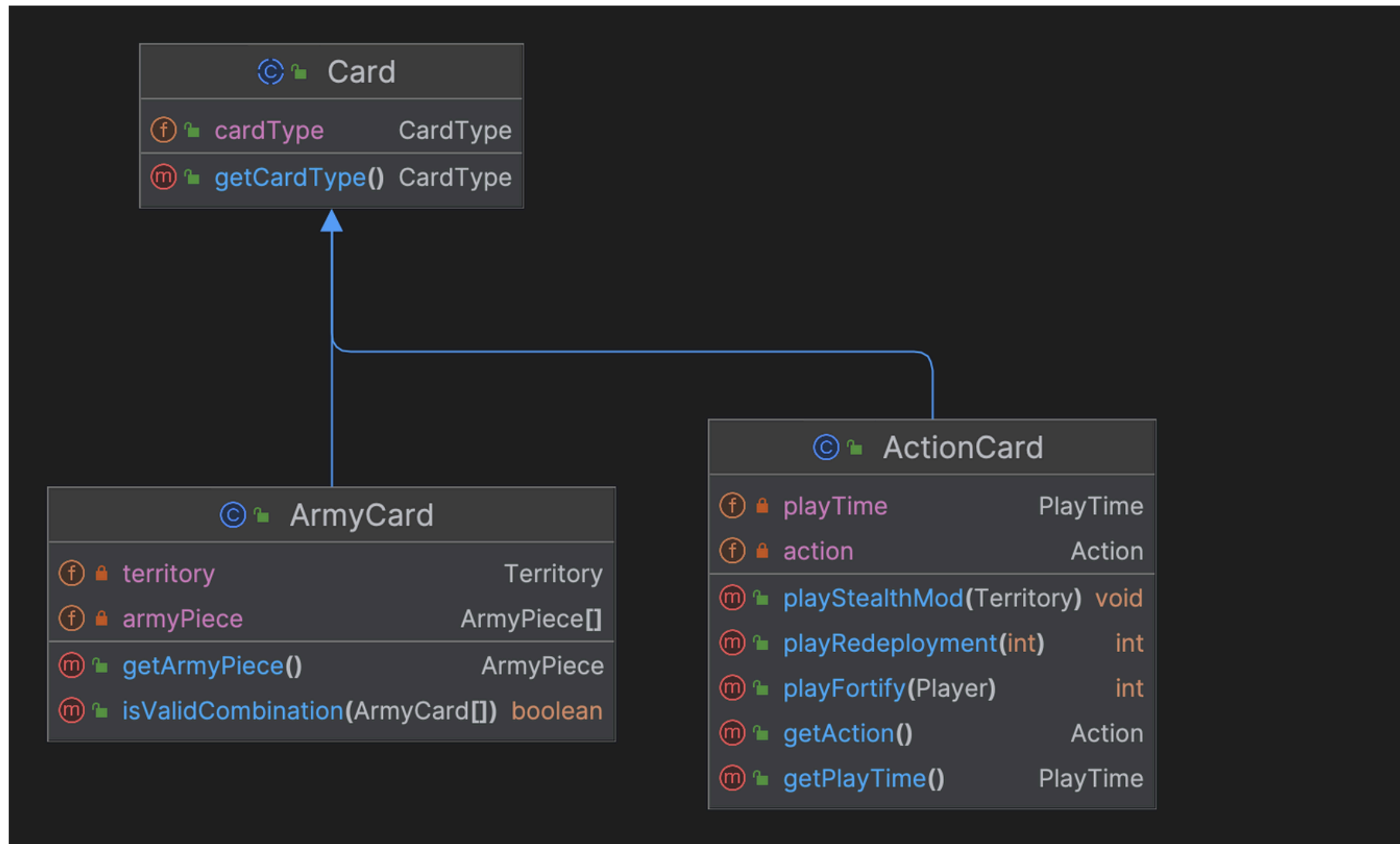
The game consists of 5 turns excluding the first turn. The game ends after 5 turns or if all 42 territories have been claimed by a single player.

# Game Play - Not Covered Features

- Action Card game play.
- Card trade methods are not properly tested.
- Bonus Troops when conquering a continent.
- GUI.



# Card Classes



The Card class is responsible for cards in the Risk game.

The parent class is divided into:

- Action Cards
- Army Cards

# Player Class

© Player		
f	armies	int
f	cards	ArrayList<Card>
f	diceRollNumber	int
f	name	String
f	score	int
f	territories	ArrayList<Territory>
m	TradeArmyCards(int[])	void
m	addArmy(int)	void
m	addArmyToTerritory(Territory, int)	boolean
m	addCard(Card)	void
m	addScore(int)	void
m	addTerritory(Territory)	void
m	attack(Territory, Territory, Player)	boolean
m	compareTo(Player)	int
m	fortify(Territory, Territory, int)	void
m	gainArmies()	void
m	getArmies()	int
m	getCards()	ArrayList<Card>
m	getDiceRollNumber()	int
m	getName()	String
m	getTerritories()	ArrayList<Territory>
m	placeArmies(int, Territory)	boolean
m	removeArmy(int)	void
m	removeArmyToTerritory(Territory, int)	void
m	removeCard(Card)	void
m	returnTerritory(String)	Territory
m	rollDice()	void

The Player class is the most extensive class of the project.

It is responsible for:

- Creating players
- Assigning armies, gaining armies
- Gaining territories
- Trading cards
- Attacking, fortifying, placing armies
- Rolling the dice
- Implements the Comparable interface



# Game Class

© Game		
Ⓣ	NUMBER_OF_CONTINENTS	int
Ⓣ	NUMBER_OF_PLAYERS	int
Ⓣ	NUMBER_OF_TURNS	int
Ⓣ	currentTurn	int
Ⓣ	deck	Deck
Ⓣ	map	Continent[]
Ⓣ	players	Player[]
Ⓜ	earnCards(Player)	void
Ⓜ	getCurrentTurn()	int
Ⓜ	initializeMap()	void
Ⓜ	isOver()	boolean
Ⓜ	turnCounter()	void

The Game class is responsible for initialising the Risk game.

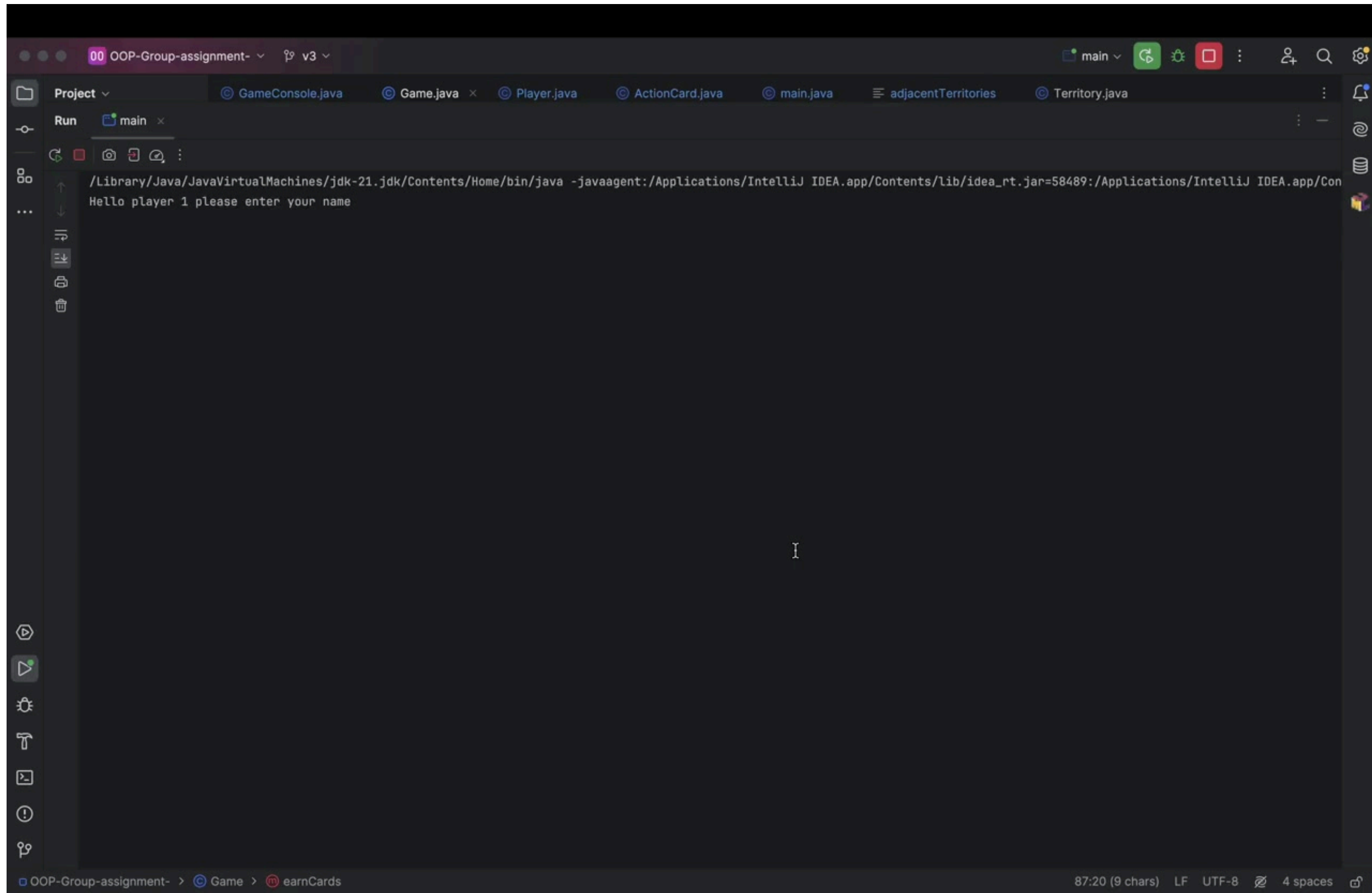
It is responsible for:

- Creating a map of the game.
- Creating the deck of cards.
- Counting turns.
- Checking the game status.
- Drawing cards from Deck.



# Game Console

The game is played using command-line interface





**Thank you**