

Uno game using Java 8

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Game guideline:

1. Start the **ServerUno** and put the number of desired players and wait for players to connect.
2. Start N **Client** (with N number of players) and insert in each console the player's name.
3. When all players are given a name and connected, the round begins.
4. Enjoy the game. At the end of each round and at the end of the game the scores are shown.

In order to do an action, one of these commands must be typed into the console of each respective player:

- To play a card: **je-pose CardName**

CardName exemples:

je-pose 5-rouge
je-pose Joker-jaune (the color indicates the desired color to play)
je-pose +4-vert (the color indicates the desired color to play)
je-pose +2-bleu
je-pose Inversion-rouge
je-pose Passer-jaune

- To take a card: **je-pioche**
- To pass your turn: **je-passe**
- To say Uno: **Uno**
- To say Contre-Uno: **Contre-Uno**

Integrated cards:

- 76 cards going from 0 to 9 with the following colors: rouge, vert, jaune, bleu
- 8 cards +2
- 8 cards "Inversion"
- 8 cards "Passer son tour"
- 4 cards +4
- 4 cartes "Joker" (changement de couleur)

Game extensions:

In addition to the different functions added with the integrated cards, the game has the following:

- Each player has the ability to say **Uno** and **Contre-Uno** whenever he wants during the game. Saying **Contre-Uno** while every player has more than one card won't result in any sanction.
- If two players send **Uno** and **Contre-Uno** simultaneously to the server, there could be only one outcome because the treatment of the messages are synchronized functions of the same object.
- The game can take 2 to 9 players. The user indicates the number of players at the beginning of the game.
- The game ends when someone has a score above 500.
- The client can't send a card that he does not have.
- If the client sends a message not according to protocol, the server tells him that the message is invalid.
- The deck is shuffled automatically and when it is empty it retakes the cards from the discard pile.
- The round starts with a random player.

Classes description

ServerUno: Accepts players at the beginning of the game and runs the game in its the main.

ServerService: Sends/receives messages to/from client. Messages received are treated in this class before sending it to class **Round**. This class stores the cards and points of each player.

Client: Each player runs one client. The commands that he can send are: "je-pioche", "je-passe", "je-pose", "Uno" and "Contre-Uno". This class is responsible to show the player his cards, the discard pile and what other players are doing.

Round: This class runs a round. It distributes the cards at the beginning of each round. This class is responsible to apply the messages treated in **ServerService**.

Card: Abstract class of all the other cards. Has an abstract function named checkPlay() that checks if the card can be played.

NumberedCard/ SpecialColoredCard/ SpecialBlackCard: sub-classes of Card contains explicitly the function checkPlay().

Deck: Responsible for generating deck and shuffling it.