**Name:**

**Advanced Programming in Java**

**Lab Exercise 12.19.2023**

1. Make a game called Five Dice. Five Dice is a variation Yahtzee. The player rolls 5 dice. You earn points according to the following table:

5 of a kind = 50 points

4 of a kind = 25 points

3 of a kind = 10 points

The game will end when the user gets to 1000 points. The player that gets to 1000 points in the fewest rolls wins.

1. Make a simulation of the card game War. The game is played with a standard deck of 52 cards. War is a 2 player game. The deck is shuffled and dealt to the two players. The game is played by each player playing the top card in their hand. Whichever player has the highest face value wins the hand. In the event of a tie, the player that wins the next hand wins the cards from the tie. With each play, the two players cards will be displayed and the winner determined. After all cards are played (26 plays), a report is made on how many wins each player has. And who won the game.
2. Modify the game of war so it plays the game without any operator intervention.
3. Switcharoo

Create a function that takes a string and returns a new string with its first and last characters swapped, except under two conditions:

If the length of the string is less than two, return "Incompatible.".

If the first and last characters are the same, return "Two's a pair.".

Examples

flipEndChars("Cat, dog, and mouse.") ➞ ".at, dog, and mouseC"

flipEndChars("ada") ➞ "Two's a pair."

flipEndChars("Ada") ➞ "adA"

flipEndChars("z") ➞ "Incompatible."

Notes

Tests are case sensitive (e.g. "A" and "a" are not the same character).

1. Total Volume of All Boxes

Given an array of boxes, create a function that returns the total volume of all those boxes combined together. A box is represented by an array with three elements: length, width and height.

For instance, totalVolume([2, 3, 2], [6, 6, 7], [1, 2, 1]) should return 266 since (2 x 3 x 2) + (6 x 6 x 7) + (1 x 2 x 1) = 12 + 252 + 2 = 266.

Examples

totalVolume([4, 2, 4], [3, 3, 3], [1, 1, 2], [2, 1, 1]) ➞ 63

totalVolume([2, 2, 2], [2, 1, 1]) ➞ 10

totalVolume([1, 1, 1]) ➞ 1

Notes

You will be given at least one box.

Each box will always have three dimensions included.