Greetings!

We suggest you complete tasks for the RoR internship. We don't set any deadlines, but the faster it's done - the better.

The task should be done in English. You can use any OOP language you know to solve the tasks.

If you are not sure that you can complete all the tasks, no problem! Just finish as many as you can, or write us your thoughts on problems that you encountered during completion of harder tasks.

Complete code exercises using OOP and SOLID principles if you can. Try to fulfill as many exercise criteria as you can.

Submit your solution using an online code environment (repl.it, jsfiddle, etc.), or as a public git repository.

Task 1

Develop a program to calculate the sum of the Order in Online Shop.

The Order consists of: the list of Order Items and the list of Discounts.

Order Items is an array of items prices. Discounts is an array of discounts for each Order Item in percent.

Example

Order Items: [100.0, 112.2, 301.1]

Discounts: [10.0, 0.0, 0.0]

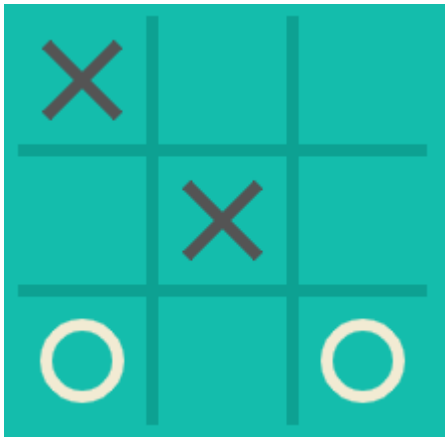
Total sum: 503.3

Task 2

Create a program, which determines the winner in the XO (Tic Tac Toe) game.
As an input this function should receive the game board (two dimensional array aka matrix).
As an output it should return the winner 'X' or ''O' (return '' if no winner).

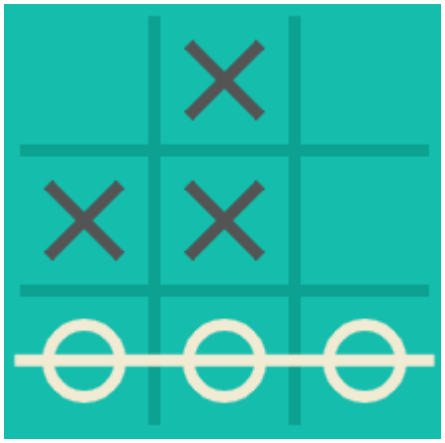
Example 1

1) Input



[
[‘X’,’’,’’],
[‘’,’X’,’’],
[‘O’,’’,’O’]
]
Output: ‘’

2) Input



[
[‘’,’X’,’’],
[‘X’,’X’,’’],
[‘O’,’O’,’O’]
]
Output: ‘O’

Task 3

There are 3 towns. Each town provides goods for certain prices. Town/price reference:

TOWN 1 - Lubeck
Good prices:
salt- 20 coins
fish- 50 coins
cloth- 60 coins
copper- 36 coins
furs- 96 coins

TOWN 2 - Reval
Good prices:
salt- 35 coins
fish- 50 coins
cloth- 40 coins
copper- 60 coins
furs- 45 coins

TOWN 3 - Bergen
Good prices:
salt- 62 coins
fish- 15 coins
cloth- 18 coins
copper- 82 coins
furs- 54 coins

Trader starts **outside** of any town with **50 coins**.

He can visit each town **only once.**

When in town he can buy/sell goods for a given price, carrying **no more than one good** while traveling between towns.

He should get **maximum possible profit** in the process.

Write a program that'll execute merchants traveling and trading, printing final and intermediate merchants coins after visiting all 3 cities.

Example output:

Run 1
Initial coins: 50
Buy salt for 35 coins in Reval. 15 coins left.
Sell salt for 62 coins in Bergen. 77 coins left.
Buy furs for 45 coins in Bergen. 32 coins left.
Sell furs for 96 coins in Lubeck.
Final coins: 128

Run 2
…

Max result: 128 coins.

Good luck!