

CODING CHALLENGE

Position: Software Engineer (Back End/Full Stack)

Instruction:

You can spend as much time as you need to make the solution up to your own standards though we think this is a problem that can be solved in two to four hours. In many cases, we have asked candidates to submit an improved version after their first submission because the solution doesn't show any good design though their original solution works.

Feel free to ask me any questions for clarification of the problem. If you need to make your own assumptions, please make sure you include them in your submission.

Please submit your solution in PHP.

Challenge:

Because it is the Internet Age, but also it is a recession, the Comptroller of the town of Jurgensville has decided to publish the prices of every item on every menu of every restaurant in town, all in a single CSV file (Jurgensville is not quite up to date with modern data serialization methods). In addition, the restaurants of Jurgensville also offer Value Meals, which are groups of several items, at a discounted price. The Comptroller has also included these Value Meals in the file. The file's format is:

for lines that define a price for a single item:

```
restaurant ID, price, item label
```

for lines that define the price for a Value Meal (there can be any number of items in a value meal)

```
restaurant ID, price, item 1 label, item 2 label, ...
```

All restaurant IDs are integers, all item labels are lower case letters and underscores, and the price is a decimal number.

Because you are an expert software engineer, you decide to write a program that accepts the town's price file, and a list of item labels that someone wants to eat for dinner, and outputs the restaurant they should go to, and the total price it will cost them. It is okay to purchase extra items, as long as the total cost is minimized.

Here are some sample data sets, program inputs, and the expected result:

Data File data.csv

```
1, 4.00, burger
1, 8.00, tofu_log
2, 5.00, burger
2, 6.50, tofu_log
```

Program Input

```
> program data.csv burger tofu_log
```

Expected Output

```
=> 2, 11.5
```

Data File data.csv

```
3, 4.00, chef_salad
3, 8.00, steak_salad_sandwich
4, 5.00, steak_salad_sandwich
4, 2.50, wine_spritzer
```

Program Input

```
> program data.csv chef_salad wine_spritzer
```

Expected Output

```
=> nil (or null or false or something to indicate that no matching restaurant could be found)
```

Data File data.csv

```
5, 4.00, extreme_fajita
5, 8.00, fancy_european_water
6, 5.00, fancy_european_water
6, 6.00, extreme_fajita, jalapeno_poppers, extra_salsa
```

Program Input

```
> program data.csv fancy_european_water extreme_fajita
```

Expected Output

```
=> 6, 11.0
```

We have included all these samples in a single data file, sample_data.csv. Please include instructions for how to run your program with your submission.

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