M Gmail

Unmesh Vinchurkar <unmeshv02@gmail.com>

Talentica Programming Test

4 messages

Aniket Shaligram <anikets@talentica.com>   Fri, Apr 24, 2015 at 11:36 AM
To: "unmeshv02@gmail.com" <unmeshv02@gmail.com>

Hi Unmesh,

Was nice talking to you a while back. Below is the programming test, please do not hesitate to get back to me for any questions/clarifications,

Instructions
- • Ensure that the code is well commented and is object oriented
- • You need to make sure that the code not only works for the test cases described below but also for other datasets and test cases. Ensure that boundary conditions are taken care of.
- • All the best!

Programming Test
Best Buy Baby Products Program
Write a program that accepts a price file of baby products(format below) as CSV file, and a list of products that someone wants to buy, and outputs the shop they should go to, and the total price it will cost them. It is okay to purchase extra products, as long as the total cost is minimized.

price file format
shop ID, price, product 1 label (single product)
shop ID, price, product 1 label, product 2 label, ... (combo packs with multiple products)

Shop IDs are integers, all products are lower case letters and underscores, and the price is a decimal number.

Here are some samples:

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Data File data.csv
1, 4.00, teddy_bear
1, 8.00, baby_powder
2, 5.00, teddy_bear
2, 6.50, baby_powder

Program Input
> program data.csv teddy_bear baby_powder

Expected Output
=> 2, 11.5
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```

```
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Data File data.csv
3, 4.00, pampers_diapers
3, 8.00, johnson_wipes
4, 5.00, johnson_wipes
4, 2.50, cotton_buds

Program Input
> program data.csv pampers_diapers baby_soap
```

Expected Output
=> none

Data File data.csv
5, 4.00, bath_towel
5, 8.00, scissor
6, 5.00, scissor
6, 6.00, bath_towel, cotton_balls, powder_puff

Program Input
> program data.csv scissor bath_towel

Expected Output
=> 6, 11.0

Thx,
Aniket

Aniket Shaligram

Director of Engineering | Talentica Software (I) Pvt Ltd | +91 98506 69194
Winner: Red Herring Top 100 Asia

Unmesh Vinchurkar <unmeshv02@gmail.com>   Fri, Apr 24, 2015 at 12:26 PM
To: swapnagandha sohale <sohale.swapnagandha@gmail.com>

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Unmesh Vinchurkar <unmeshv02@gmail.com>   Tue, Apr 28, 2015 at 10:24 AM
To: Aniket Shaligram <anikets@talentica.com>

Hi Aniket,
         Please find the solution of the programming problem:

1. To run the program copy BestBuy.jar and shopData.csv in a directory and execute:

java -cp BestBuy.jar talentica.bestbuy.Main shopData.csv scissor bath_towel

2. **BestBuy.zip** contains the eclipse project. To look at the source code either unzip this file or import it in Eclipse.

3. **doc.rar** contains Java doc, **BestBuyClassDiagram.png** is the class diagram.

4. **BestBuyHelper.java** contains the logic to find minimum price.

Logic: Please have a look at method **BestBuyHelper.findMinCost()**

Assumptions:
   1. A shop can offer more than one combo.
   2. A product in a shop can be part of a combo or separately sold.

 Algorithm:
   1. For each requested product find all the combos(combo or separately
    sold instance) in a shop. This can be called as **domain** of that product.

   2. If a product is present only in one combo then select that combo, now
    if any other requested product also appears in that combo then there is

no need to select that product again as it is already selected with the combo.

3. Now iterate over the requested products, for a product(pk) find the combo(combo or individual product) with least price, then combine this combo with the domain(of next product(Pk+1)) to generate domain of (pk,Pk+1). Now select combo with minimum price (from the domain of (Pk,pk+1)) and then again combine this combo with domain of Pk+2, continue this process up to Pn, where n is the number of requested products. At the end of this process we will get domain of p1,p2...pn, select combo with minimum price out of this domain to get the result.

Thanks
Unmesh

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5 attachments

BestBuyClassDiagram.png
27K

BestBuy.jar
16K

BestBuy.zip
149K

doc.rar
87K

shopData.csv
1K

Aniket Shaligram <anikets@talentica.com>   Wed, Apr 29, 2015 at 11:03 AM
To: Unmesh Vinchurkar <unmeshv02@gmail.com>

Hi Unmesh,
Thanks for sending it over. Had to make some minor edits to the code to get it working on my mac. But overall the code looks great and it did pass 90% of the test cases. Ankita will get in touch with you for the next steps.

Thx,
Aniket

Aniket Shaligram

Director of Engineering | Talentica Software (I) Pvt Ltd | +91 98506 69194
Winner: Red Herring Top 100 Asia

From: Unmesh Vinchurkar <unmeshv02@gmail.com>
Date: Tuesday, 28 April 2015 10:24 am
To: Aniket Shaligram <anikets@talentica.com>
Subject: Re: Talentica Programming Test

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