CENG 114 2019-2020 SPRING

HOMEWORK – 3

Due Date: May, 4 2020 until midnight

Write a program to control stocks of ABC Market which sells vegetables. ABC Market has 10 stores in Ankara each selling 10 vegetables. The amount of products available in each store is stored in a 10x10 2d-integer array.

- **Input product amount of stores:** Use a function that inputs store id, product id and its amount from user and stores the values into a 10x10 integer array and returns it to the calling function.

- **Stock control with product id and store id:** Inputs product id and store id from user. Shows current stock info. Use a function that receives product id, and store id and a 2d array & its size storing the product amounts. It displays current stock info in the required store for the requested product.

- **List all products of store n:** Shows stock info of Store n. Use a function that receives product id, store id (n) and amount of products' arrays of stores and displays current stock info of store n.

- **List products exist in store n but not store m :** Shows products' ids and stocks which exist in only store n, don't exist in store m. Use a function that receives two store ids (n and m), and a 2-d array & its size storing the product amounts and displays products' ids and stocks which exist in only store n, don't exist store m.

- **List products exist in both store n and store m:** Shows product ids and stocks which exist in both store n, don't exist in store m. Use a function that receives two store ids (n and m) and a 2-d array & its size storing the product amounts and displays products' ids and stocks which exist in both stores.

- **List sorted product by stock:** Shows product ids and total stocks of the company in increasing order. Use a function that receives a 2-d array & its size storing the product amounts and returns two 1-d arrays storing the product ids and their amounts in increasing order.

- **Update stock:** Inputs store info and product id from user. Shows current stock info and inputs new stock info to update the stock when there is a sale. Use a function that receives store id, product id, new stock and a 2-d array & its size storing the product amounts and update and return the products array with the current stock amount.

Sample Run:

```
**********************************************************

Main Menu :
0- Input product amount of stores
1- Stock control with product id and store id
2- List products
3- Update stock
4- Quit
--------------------------------------------

Select your operation : 0
--------------------------------------------
Enter product id : 5
Enter store id : 2
Enter amount: 20
.....
--------------------------------------------
1- Continue
```

2- Return main menu
Selection : **2**

Main Menu :
_____

0- Input product amount of stores
1- Stock control with product id and store id
2- List products
3- Update stock
4- Quit

Select your operation : **1**

Enter product id : **5**
Enter store id : **2**

Store 2: product 5 amount: 55

1- Continue
2- Return main menu
Selection : **2**

Main Menu :
_____

0- Input product amount of stores
1- Stock control with product id and store id
2- List products
3- Update stock
4- Quit

Select your operation : **3**

Select store 1-10 : **1**
Enter product id in store 1 : **3**
Current stock of product 3 in store 1 : 50
Enter new stock : **20**
Done !

1- Continue
2- Return main menu
Selection : **1**

Main Menu :
_____

0- Input product amount of stores
1- Stock control with product id and store id
2- List products
3- Update stock
4- Quit

Select your operation : **3**

Select store 1-10 : **2**
Enter product id in store 2 : **5**
Current stock of 5 in store 2 : 50
Enter new stock : **0**
Product 5 is out of stock in store 2
Done!

1- Continue
2- Return main menu

Selection : **2**

Main Menu :
_____
0- Input product amount of stores
1- Stock control with product id and store id
2- List products
3- Update stock
4- Quit

Select your operation : **2**

1- List all products of store n
2- List products exist in store n but not store m
3- List products exist in both store n and store m
4- List sorted product by stock

Select your operation : **1**
Input store id:**1**

Store 1 :
      Product 1   2   3   4   5   6 ……..
       Stock 20 50   50   50   50   50   ……..

1- Continue
2- Return main menu
Selection : **1**

1- List all products of store n
2- List products exist in store n but not store m
3- List products exist in both store n and store m
4- List sorted product by stock

Select your operation : **2**
Select two stores to compare: 1 2

     Products exist in store 1 and not in store 2:
      Product   5   8   10
      Amount 20   50   50

1- Continue
2- Return main menu
Selection : **1**

1- List all products of store n
2- List products exist in store n but not store m
3- List products exist in both store n and store m
5- List sorted product by stock

Select your operation : **3**
Choose two stores: **2 3**

Products available both store 2 and 3: 3   4   6

1- Continue
2- Return main menu
Selection : **1**

1- List all products of store n
2- List products exist in store n but not store m
3- List products exist in both store n and store m
4- List sorted product by stock

Select your operation : **4**

Total product amounts in order:
Product   5   9   3   6   3   7   1   8   10   2   4
Amount 20   50   150   175   250   275   300   350   450   550   650

1- Continue
2- Return main menu
Selection : **2**

Main Menu :
0- Input product amount of stores
1- Stock control with product id and store id
2- List products
3- Update stock
4- Quit

Select your operation : **4**

BYE ...
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NOTES:

Your program should

- Be done **INDIVIDUALLY**!!!

- Include comments to explain your program.

- Give attention to indentation of your code

- Be easy to follow.

- Work for all possible inputs.

- Give your student id to your source file name. Otherwise, you will loose 10 points from your grade.
  Ex: 200111032_hw3.cpp