

**DEPARTMENT OF ICT, CFS IUM
SEMESTER 2 SESSION 2021/2022**

**ICT0525– INTRO. TO PROGRAMMING
ASSIGNMENT 2 (35 marks)**

QUESTION:

Write a program to keep track the inventories of a soft drink vending machine. The program will update the price and the quantity of the selected drink in the machine. Assume that the available drinks are as follows:

Code	Drink	Price	Quantity
101	Mineral water	1.51.50	10
102	Coca-cola	2.50	5
102	Seven-UP	2.20	8
103	Nescafe	3.00	12
104	SoyDrink	1.90	17

Requirements:

1. Initialize THREE (3) one-dimensional arrays in `main()` function:

- `Code[]` to store the available codes.
- `Price[]` to store the price for all drinks.
- `Quantity[]` to store the quantity for all drinks.

NOTE: Use the most suitable data type for the arrays.

2. `main()` function:

- display the inventory list (refer to the sample output). **Use the 3 arrays to display the list.**
- ask user to input the drink code that need to be updated. For example, if the user wants to update “Mineral Water”, then he should enter 101 for the drink code.
- call function `UpdateStock()` and pass the **drink code** and the **3 arrays** to the function.
- call function `UpdatedList()` and pass the **3 arrays** to the function.
- ask user whether to continue updating the next item or not. If user chooses to stop, display the message “Thank you for using the system”.

3. `UpdateStock()` function:

- ask user whether to update drink’s price or quantity. Available choices: ‘P’ for price and ‘Q’ for quantity.
- if user enters ‘P’, ask user to enter the new price and update the array that contain the price for the drink.
- if user enters ‘Q’, ask user to enter the new quantity and update the array that contain the quantity for the drink.
- In order to update the correct drink price or quantity, you must first search the drink code in the `Code[]` array. You may use sequential algorithm to do this. If drink code exists, update the relevant array. If the drink code does not exist, display the message “Drink code not found”.

4. `UpdatedList()` function:

- display the updated list of inventories (refer to the sample output). **Use the 3 arrays to display the list.**

Note: Your program must allow users to repeat as many times as he/she wants. Use the correct data type for each variable and array in your program. You **are not allowed** to use global variable.

Follow the sample output to complete the program.

Vending Machine Inventory System

Code	Drink	Price	Qty
----	----	-----	----
101	Mineral Water	1.50	10
102	Coca-cola	2.50	5
103	Seven-UP	2.20	8
104	Nescafe	3.00	12
105	SoyDrink	1.90	17

Enter drink code you want to update: **106**

Drink code not found ...

If user enters invalid item code,
this message will be displayed

****Latest inventory list****

Code	Drink	Price	Qty
----	----	-----	----
101	Mineral Water	1.50	10
102	Coca-cola	2.50	5
103	Seven-UP	2.20	8
104	Nescafe	3.00	12
105	SoyDrink	1.90	17

Do you want to update another drink? **Y**

Enter drink code you want to update: **102**

Choose to update P-price or Q-quantity: **P**

Enter new price: **2.99**

Price updated ...

****Latest inventory list****

Code	Drink	Price	Qty
----	----	-----	----
101	Mineral Water	1.50	10
102	Coca-cola	2.99	5
103	Seven-UP	2.20	8
104	Nescafe	3.00	12
105	SoyDrink	1.90	17

Do you want to update another drink? **Y**

Enter drink code you want to update: **105**

Choose to update P-price or Q-quantity: **Q**

Enter new quantity: **20**

Quantity updated ...

If user enters a valid item code,
user can choose to update
price or quantity

****Latest inventory list****

Code	Drink	Price	Qty
----	----	-----	----
101	Mineral Water	1.50	10
102	Coca-cola	2.99	5
103	Seven-UP	2.20	8
104	Nescafe	3.00	12
105	SoyDrink	1.90	20

Do you want to update another drink? **N**

Thank you for using the system

INSTRUCTIONS

1. The program file **MUST** start with the following information

```
/*  
    Student Name: xxxxxxxx          Matric No: xxxxxxxx  
    Section No: xxx  
    Date: DD/MM/YYYY  
*/
```

2. Draw the flowchart for UpdateStock () function ONLY.
3. You **MUST** submit the following items in iTaleem:

Item	Method
Flowchart	<ul style="list-style-type: none">• Draw on paper, then scan the flowchart as pdf file.• Save the file as:<ul style="list-style-type: none">○ SectionNo_Assignment 2_MatricNo.pdf○ Example: 400_Assignment 2_200001.pdf <p>**You may also save as an image file</p>
Program source codes	<ul style="list-style-type: none">• Use a compiler to type/compile/run the source codes.• Save the file as:<ul style="list-style-type: none">○ SectionNo_Assignment 2_MatricNo.c○ Example: 400_Assignment 2_200001.c

(NOTE: Please ensure that you name the files using the given format.)