

PROJECT REPORT OF DATA STRUCTURE

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Team: *Error Not Found*

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Project title

Write a program to manage Food order in a restaurant. In a restaurant, the food order contains food number, size, and quantity. The order is served in the form of first come first serve basis. Your program will display total number of orders received, served and waiting at any point in time.

Introduction

The project requires to make a program which will help to automate the process of food order and delivery system in a restaurant. The program will ask customer to enter the food he/she wants to take from a given list. Then will ask to enter the desired quantity of that item. And when asked to display the program will show the number of order received, number of order delivered and the total number of currently waiting order. And importantly the orders will be served on first come first serve basis. Which indicates the first order will be delivered at first.

Difficulty

Medium

Input

The program will take input for choosing option from menu. Then will engage according to the selection.

Order: Choosing order will call order function which will take name of the customer then it will show the list of food items and ask to input number of items to order. After selecting this it will ask for chosen items then for every item it will ask for the size of the item (if available). After the requested input the order will be complete showing a message containing customer's name and amount of food ordered.

Serve: Serve will show the customer's name whose order is being served.

Display: Display will show

- Total number of order taken
- Total number of order served
- Number of order waiting to be served
- Order number of the order that is being processed currently

at any time of command.

Output

Output contains everything that is displayed in the display function.

Language(s) used

The complete program is written in ANSI C language. All library files used here are libraries of C.

IDE used

Code::Blocks (v13.12)

Testing and Validation

The program was tested using many of different inputs needed accordingly to see the outputs. And the program successfully delivered the desired output at any time of command.

Program was run several times with different inputs by team members.

Design and Basic Idea

The program uses queue technique as basic idea. Using queue we can get a series come and go on first come first out basis. The program contains one structure which holds the data for each orders and several functions with different necessity. Main function of the program calls all the function as of

necessity. The program runs until user wants it to stop. Therefore the program won't stop at any point of time.

Sample Input Output

```
"E:\Projects\C\Varsity Project\Project_food_orders_syntaxed.exe"
Welcome to "cafe Error Not Found"
1. Order
2. Serve
3. Display
4. Exit the program
1
please enter your name: Shafi
.....MENU.....
Item Code# Description size Price(tk)
[11] Burger 200/300gm 130/180
[12] Chicken Pizza 12/14/16 inch 750/975/1250
[13] Fried Chicken 1/4/10 pcs 85/320/790
[14] Grilled Chicken quarter/half/full 70/140/250
[15] Noodles Half/Full 130/250
[16] Pasta Half/Full 120/240
[17] Oreo Shake 250mg 180
[18] Cold Coffee 250mg 65
[19] Cappuccino 250mg 70
[20] Coke 250/500mg 20/30
How many items you want to order? 1
Enter chosen item code
16
Enter the size of pasta: 1. half 2. full
2
Please enter the quantity: 1
Number of food ordered 1
Thank you Shafi for your order. Your bill is 240tk.
Please wait while we prepare the food.
1. Order
2. Serve
3. Display
4. Exit the program
2
Order no. 10000 by Shafi is ready
Enjoy your meal
1. Order
2. Serve
3. Display
4. Exit the program
3
Total order taken: 1
Total number of order served 1
Number of Currently waiting to be served: 0
Currently preparing food for order no. 0
1. Order
2. Serve
3. Display
4. Exit the program
-
```

Usage in Real Life

This program can be used in Food courts or restaurants to maintain the food orders and keep everything under surveillance. Although this program contains a few items in list the list can be bigger and with more options as necessary.

Advantages

This program will help restaurants to manage food orders more easily. Busy shops has serving queue problems sometimes. This program will help to maintain the queue automatically on first come first serve basis. It can be easily used to make bills too. And last but not least this will show who to serve next along with the customers in line to be served.

Disadvantages and Limitations

This program is a console program which is not user friendly. The interface is quite difficult to input data normally. This program is built using array which has limitation of 10000 according to the code which indicates it will allow up to 10000 orders and serves but no more.

Possibilities and Improvements

Upgrading this program we can create more suitable food management system. Which can even be capable of keeping records of previous records. Adding a user friendly GUI can make this program usable by everyone. It can more item list than it has in it. With a few adjustment we can even make a way to change any order that has already been placed. It will bring a little complexity to source code but will surely be helpful. This can be used in AI for automated home delivery system.

Conclusion

This program is full of potential to help people managing orders and saving times. It can be helpful for both customers and restaurant owner or manager.

Reference

Books:

- Teach yourself C by Herbert Schildt
- Data Structure by Seymour Lipschutz

Website:

www.learncpp.com

www.stackoverflow.com

www.en.wikipedia.com

www.youtube.com