

Introduction to Programming EE2310 Homework 5-2

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Problem

Create a menu of a customer service center to simulate the process when a customer call for service. Generate 100 customer records and save below data.

- Total number of customers visited,
- The number of menu items selected by a user,
- Total number of times each menu item is selected.

Analyze the data of HW5-1 and the data which is generated automatically.

My Solution

- Generating 100 customer records: using `rand()` function to simulate customers options. In order to make the random number table more randomized, the seed (the number of customers * current time) will update every time when the previous "customer" logout.
- Analyze the data: When a menu was selected, a corresponding counting variable will be added 1. When the program generated 100 sets of data, the program will print all the counting variables on the bottom of the log file, then break from the loop.

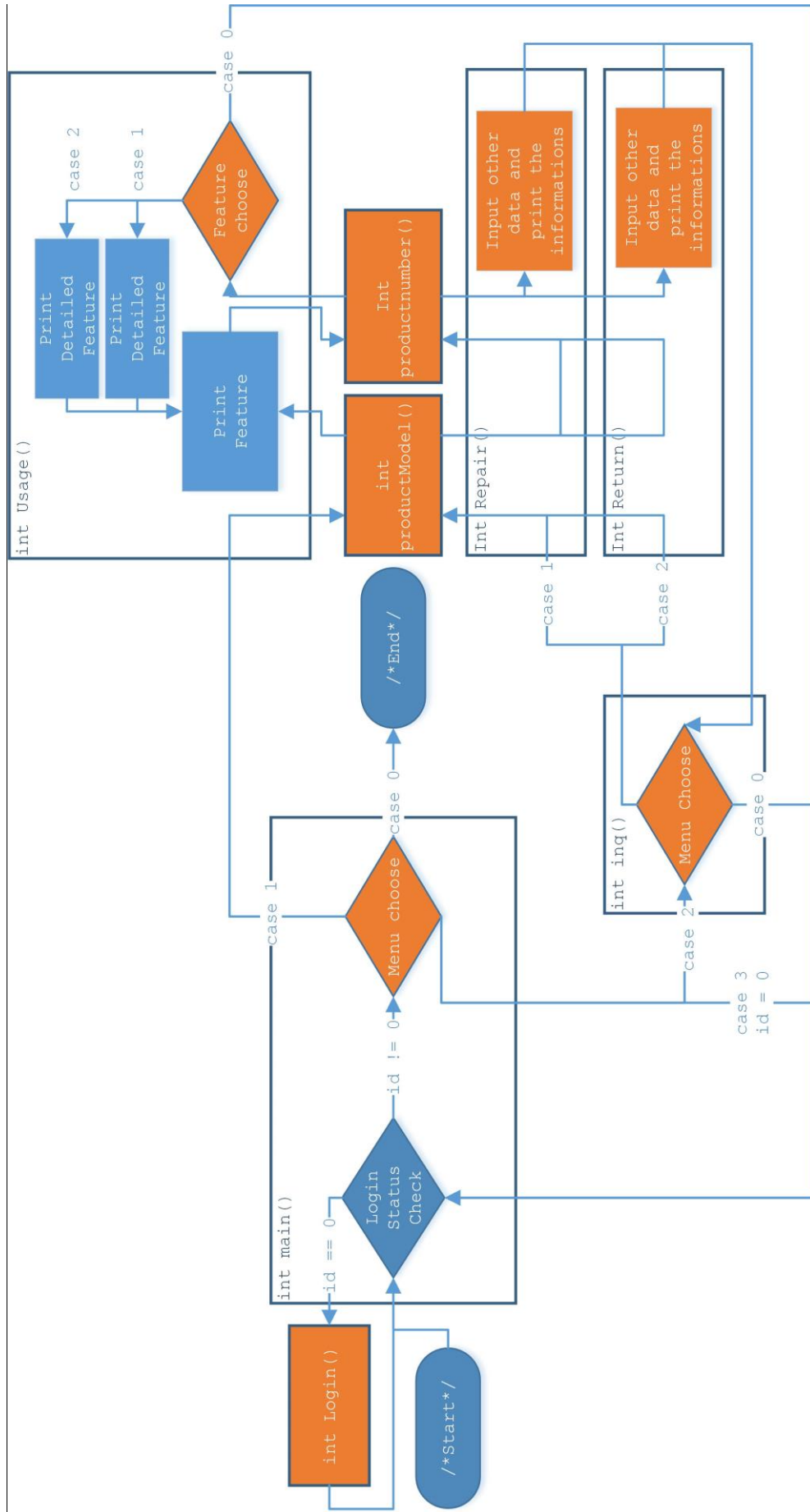
Additional Features

- The problem of not using proper structured programming method has been fixed this time.
- The generating process of address information is not completed.

Program Flow & Structure

- `int Login()`: To generate the user ID and get the user's name from the name pool. Save the user information into target file.
- `int main()`: The first level menu. Also will check the login status. If the user is not logged in (`id==0`), it will call `Login()`.
- `int inq()`: The second level menu.
- `int productModel()`: To pick a product by a random number.

- `int productNumber()`: To generate a number from 10001 to 39999, and check if it is valid number (the range varies by different model).
- `int Repair`: Call `productModel()` and `productNumber()` first, then generate the purchase date. Print out the repair number and the bill if the warranty has expired in the end.
- `int Return`: Call `productModel()` and `productNumber()` first, then generate the purchase date. Print out the return number in the end.



Output Result

SystemLog.txt

```
-----  
Tue Oct 28 21:19:17 2014  
Name = Ivan  
ID = 9  
  > home > usage > home > inquire > return  
  
ReturnNo.0000001  
|-ProductModel = 1  
|-ProductNumber = 20077  
|-PurchaseDate = 2003.2.15  
  
steps = 5  
  
-----  
(Omitted)  
-----  
Tue Oct 28 21:19:26 2014  
Name = Jason  
ID = 10  
  > home  
  
steps = 1  
  
-----  
SYSTEM SUMMARY  
Total Customers = 100  
Usage Menu Selected = 126  
Inquiry Menu Selected = 418  
Repair Selected = 141  
Return Selected = 147
```