

Automatic Vending Machine for Instant Mini Pizza

**CSC 1100 – Elements of Programming**

**SECTION 2**

**Semester 2, 2017/18**

**Project Report**

**Submitted to: DR. SURIANI BT. SULAIMAN**

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**Introduction:**

Our **N-N Instant Mini Pizza Vending Machine** contains two sections-

1) Manger Section (refill the machine, check item amounts).

2) Customer section (to purchase pizza, choice of payment (notes/coins), if the user doesn’t have enough money to buy pizza, customer will be given option to insert money)

* The manager section we have **12 functions.**
* The customer section has **14 functions** with globally defined an declared variables.
* The Inputs have to go through some tests to make sure it’s Valid.
* The programs save and show previous purchase using a file named “Sales.dat”.
* Managers can check remaining item’s amounts, price, purchase history through the files. (Allowed to the managers only)
* Managers can check the amount and refill the items using “PizzaCapacity.dat”, “ToppingsCapacity.dat”, “SauceCapacity.dat”.
* Customers can insert money to buy pizza. Otherwise the program will show “There is not enough money”.

**Flow Chart:**

Start

OpeningTheProgram ()

Instructions ()

Print “Welcome to N-N Instant Mini Pizza Vending Machine”

Print “Instructions”

Print “1- Manager”

Print “You have to login to your account using your username and password.”

Print “Password should contain 6 digits or more.”

Print “You can Refill this Vending machine with any amount.” from.”1-15 pizzas, 1-1050 grams of toppings and 500 packets of sauce

Print “You can check how much pizza,toppings and sauce are remaining in the machine..”

Print “2- Customer:”

Print “You can buy pizza with any amount you want but not exceed 15(Maximum) Pizza.”

Print “If you don't have enough money, you have to insert some money acceptable by the machine..”

Print “You can insert money either coins or notes.”

Print “Once you finish your transactions Please check your Balance.”

Print “Please Press 'Enter' to continue..”

Print “Welcome to N-N Instant Mini Pizza Vending Machine."

Print “Please use one of the following transactions:

1-Manager

2-Customer”

Enter Choice

If Choice

Choice = 2 Choice = 1

Get ManagerDetails()

UserName is false OR pass is false select = 3 choice=2 select = 1 select = 3 FALSE false TRUE Choice = 1 Coins Coins Notes NO YES

GetCustomerOrder ()

Print the net Salas

If Choice

endOfProgram()

Prompt the Manager to choose a transaction

If UserName & Password

Enter UserName &

Password

Prompt the Manager to Refill the machine

Prompt the user to choose exit or repeat

DisplayTransactions()

If repeat

End

Print “1- Order Pizza

2- Insert money

3.Balance Enquiry”

”

Prompt the user to enter a choice

Choice

PizzaCapacity.dat

ToppingsCapacity.dat

SauceCapacity.dat

insertMoney ()

Prompt the user to choose to insert Notes or Coins

Prompt the user to enter the pizza,toppings,sauce code and the amount

Choice

CheckTheBalance()

CalculateThePrice()

CheckItemsAmount()

Prompt the user to enter the amount of money

Prompt the user to enter the amount of money

DisplayTheNotes()

DisplayTheCoins()

Balance -= price

continueChoice()

CustomerClass::CalculateTheMoney()

endOfProgram()

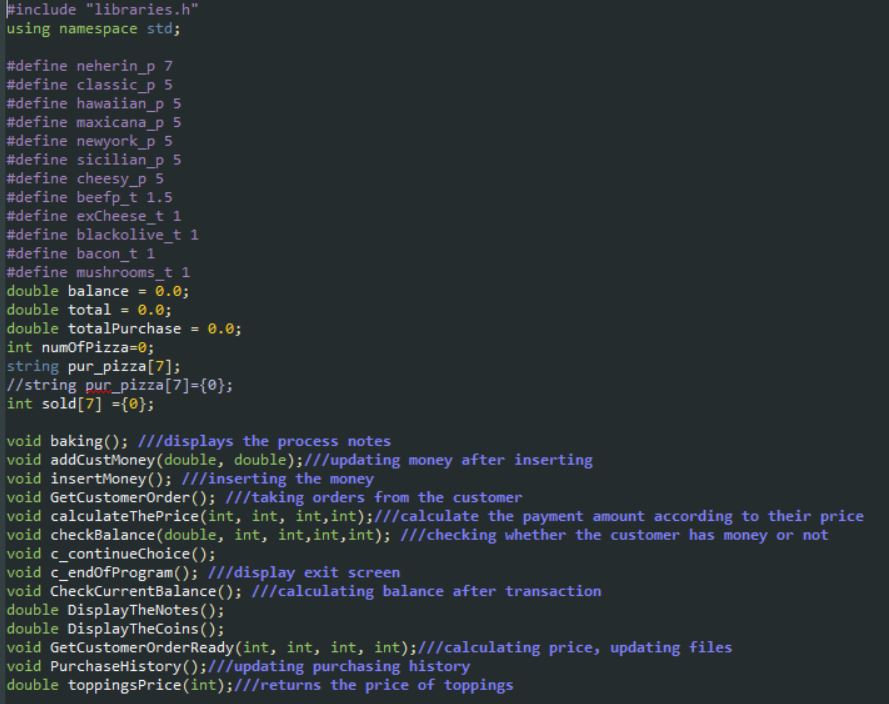
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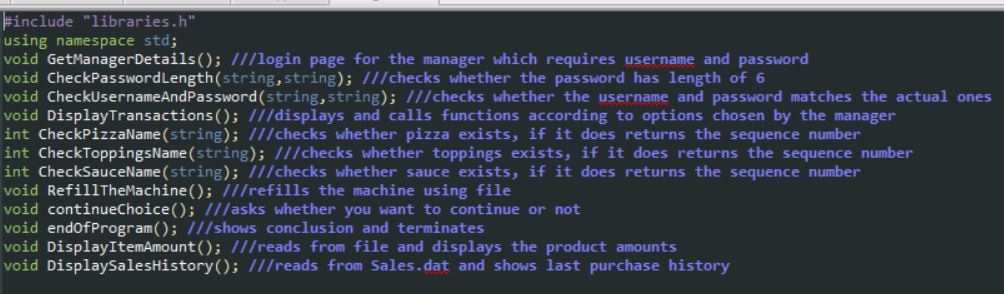
GetCustomerOrder()

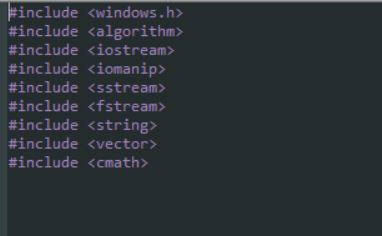
baking()

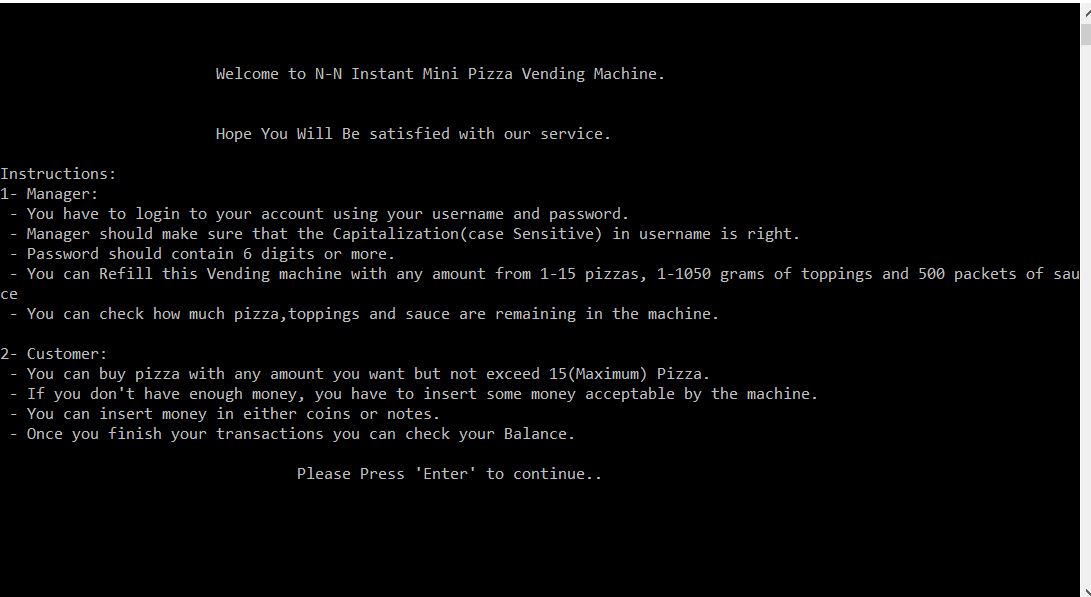
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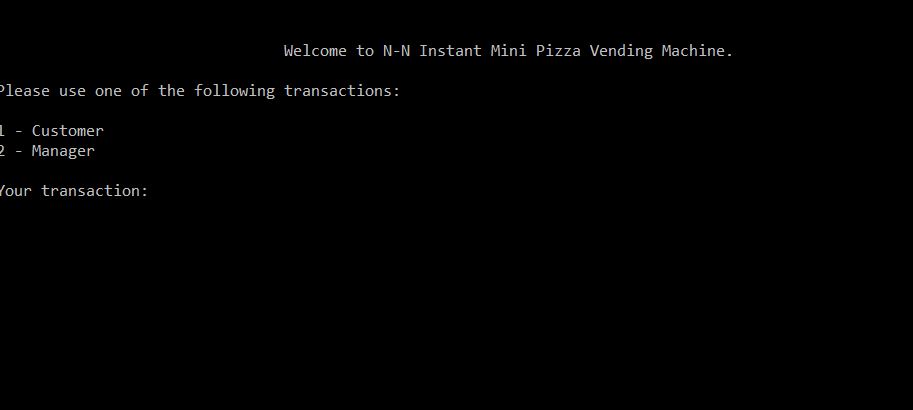
* **Manger Section (Functions Called):**
* void GetManagerDetails();
* void CheckPasswordLength(string,string);
* void CheckUsernameAndPassword(string,string);
* void DisplayTransactions();
* int CheckPizzaName(string);
* int CheckToppingsName(string);
* int CheckSauceName(string);
* void RefillTheMachine();
* void continueChoice();
* void endOfProgram();
* void DisplayItemAmount();
* void DisplaySalesHistory();
* **Customer Section (Functions Called):**
* void baking ();
* void addCustMoney(double, double);
* void insertMoney();
* void GetCustomerOrder();
* void calculateThePrice(int, int, int,int);
* void checkBalance(double, int, int,int,int);
* void c\_continueChoice();
* void c\_endOfProgram();
* void CheckCurrentBalance();
* double DisplayTheNotes();
* double DisplayTheCoins();
* void GetCustomerOrderReady(int, int, int, int);
* void PurchaseHistory();
* double toppingsPrice(int);
* **Algorithm (Use of functions):**
* Start
* Call instructions() and openingTheProgram();
* Press “Enter” to continue
* Prompt the user to choose between Customer or Manager.
* If Manager:
  + Call GetManagerDetails() function from manager.h
  + Prompt the manager to enter the username and the password
  + Checking from the length of the password by function called ChechThePasswordLength()
  + If the length is false:
    1. Print “Invalid password”.
    2. Prompt the user to enter the password again.
* Else if the length is true the function. CheckTheUserNameAndPassword() is called
* DisplayTransactions():
* DisplaySalesHistory()
* RefillTheMachine() which allow the manager to refill with maximum 15 pizza the machine if any pizza has sold out
* After the manager finishing his transactions he will be given a choice to either make another transaction or exit
* If the manager chooses to exit the massage “Have a nice day sir” will be displayed
* Else if he want to make another transaction the manager will repeat all the processes again by calling function called DisplayTransaction()
* Else call endOfProgram()
* Else if customer:
  + Call function called GetCustomerOrder() in customer.h
  + The Customer should choose either to get a pizza or to insert money or balance inquiry
  + If the customer choose insert money so he can insert either notes or coins using function called insertMoney()
  + Customer is asked to insert money as notes or coins by showing DisplayTheNotes() and DisplayTheCoins
  + Else if 3 is chosen, call CheckCurrentBalance();
  + Else if the customer chooses to get a pizza, the program calls the files PriceList.dat to display the list of pizza,toppings and sauce.
  + Customer is asked to select pizzaCode,amount,toppingsCode,sauceCode.
  + Call calculateThePrice();
  + If not enough money, choose either to continue the transactions and insert the money.
  + Else the remainder calculated by function called addCustMoney ()
  + User is asked either to exit the program or to make another transaction.
  + If chosen to exit, call c\_endOfProgram();
  + Else call GetCustomerOrder();
* End.
* **Screenshots:**

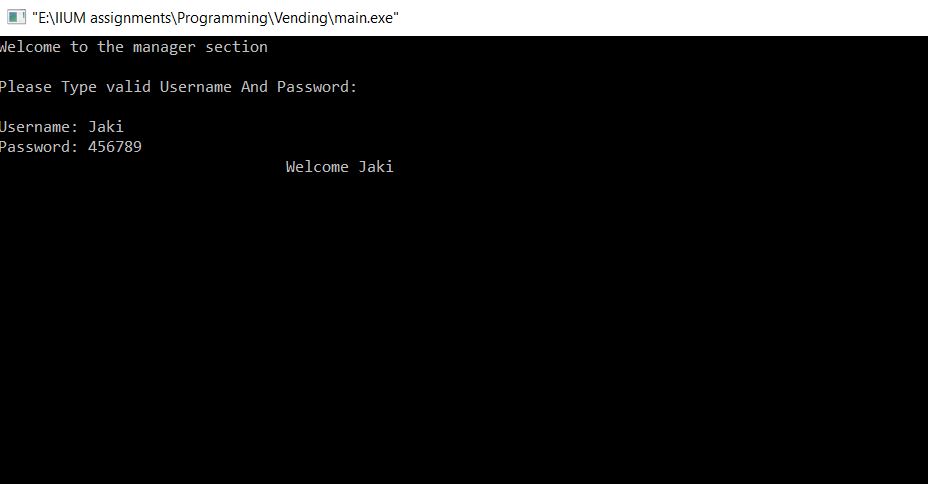
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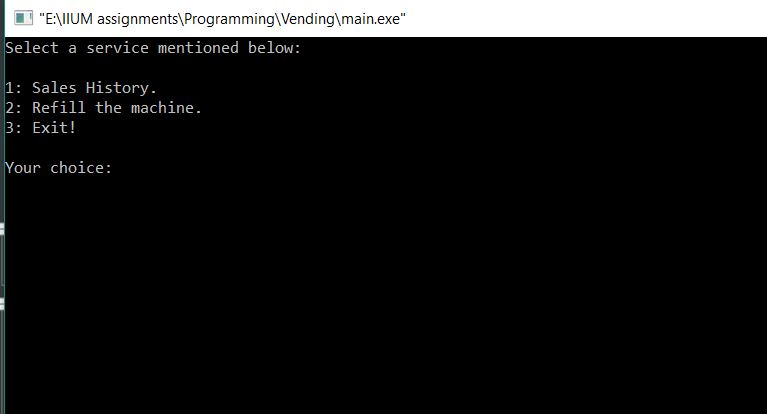
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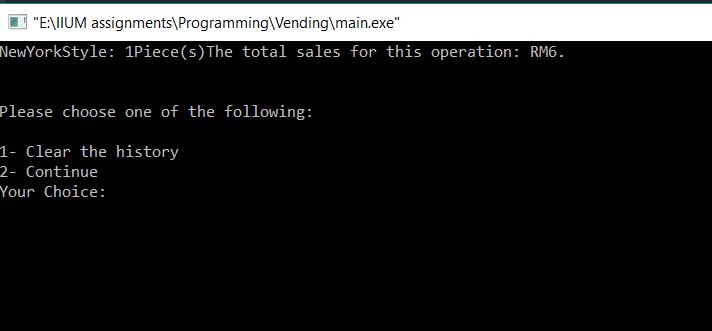
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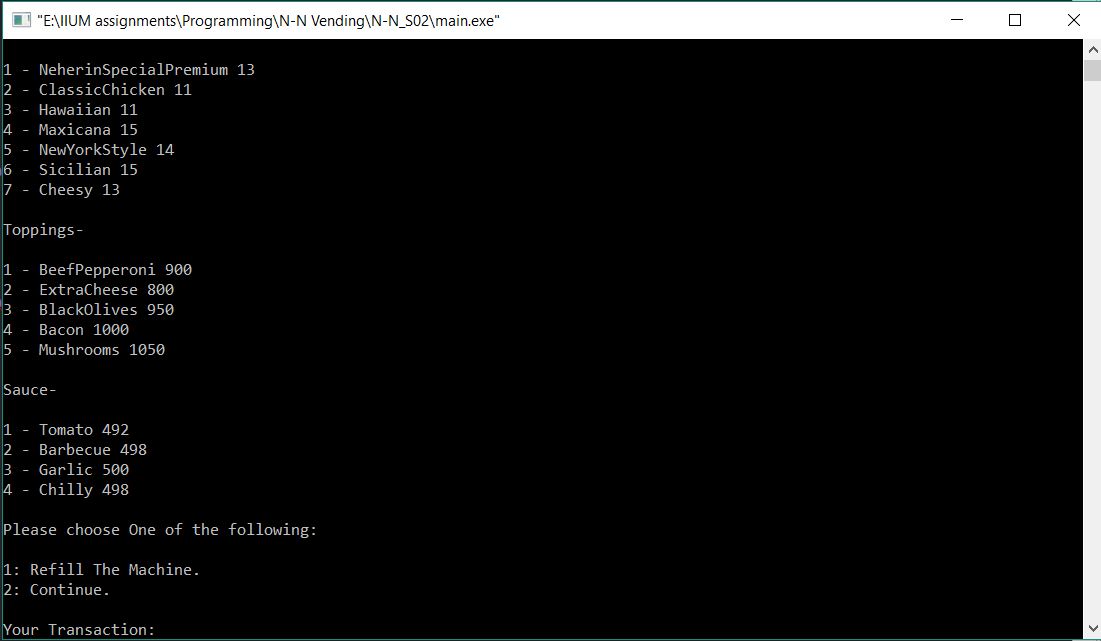
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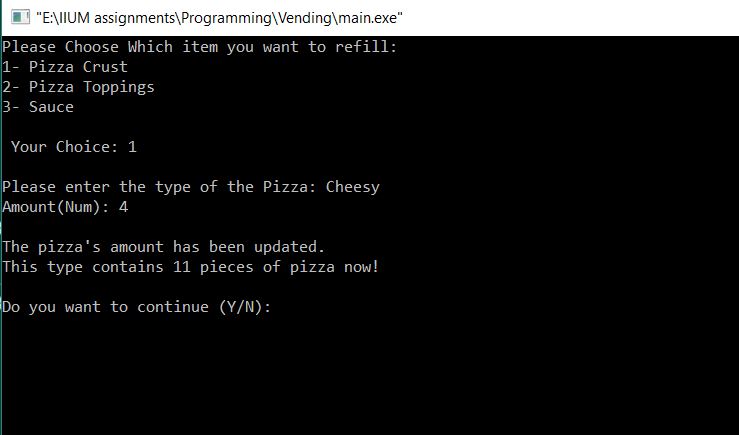
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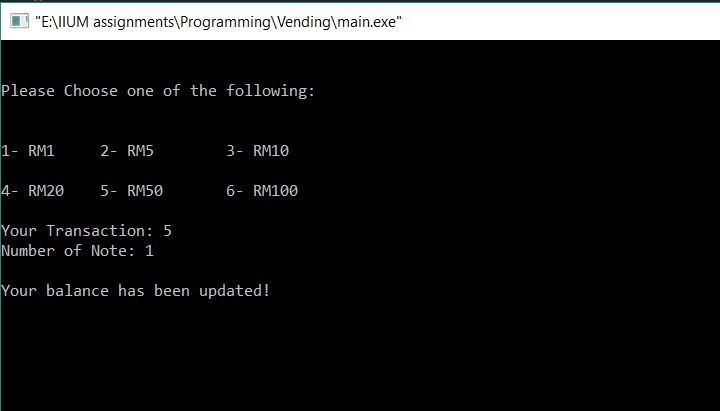
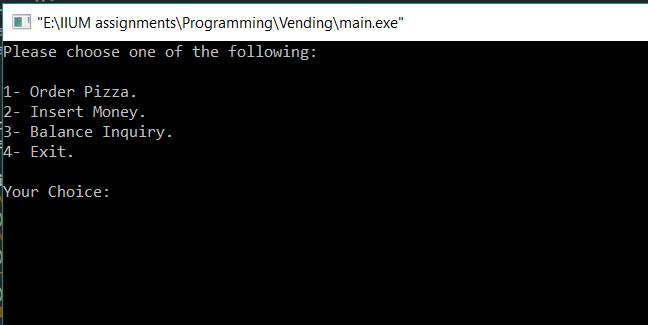
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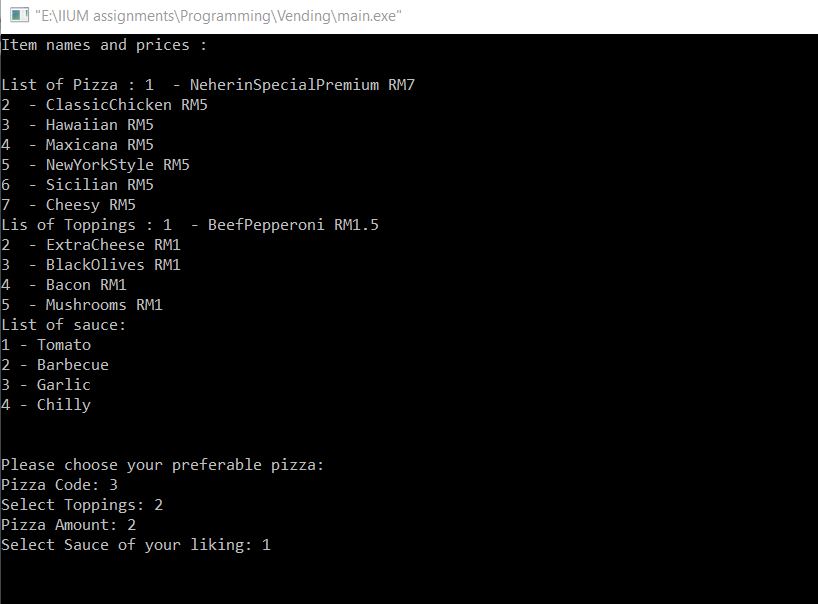
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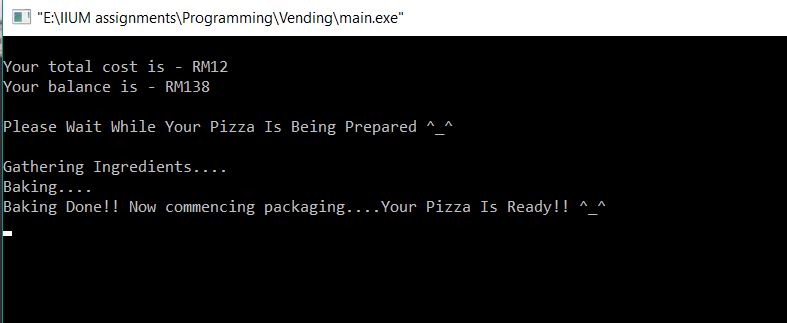
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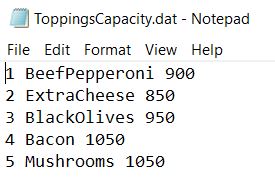
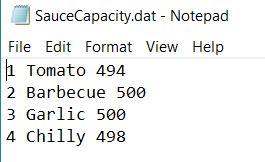
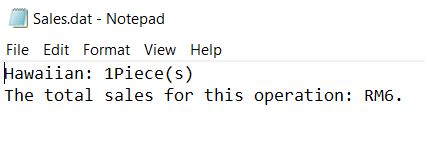
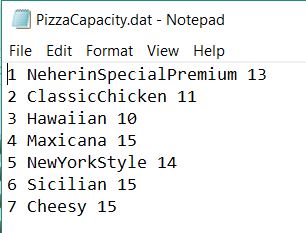
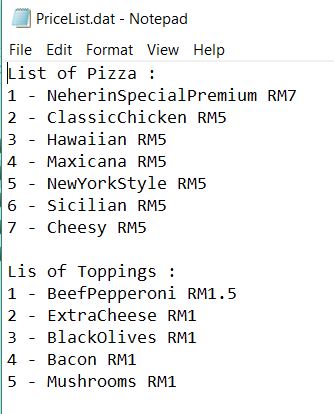
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