COFFEE SHOP MANAGEMENT SYSTEM

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Aim:

The aim of this program is to simulate a basic coffee shop ordering system.

Introduction:

It allows the user to select various items from a menu, specify the quantity of each item they want to order, and then calculates the total amount for the order. The program also generates an itemized invoice showing the details of the items ordered along with their individual costs and the total amount to be paid.

Here are the main functionalities of the program:

1. Display Menu:
    - The program displays a menu of items available in the coffee shop along with their corresponding prices.
2. Take User Input:
    - It prompts the user to enter their choice of item by providing the corresponding number.
3. Quantity Selection:
    - The user can specify the quantity of the selected item they want to order.
4. Calculate Amount:
    - Based on the item chosen and the quantity specified, the program calculates the total cost for that item.
5. Accumulate Total Amount:
    - The program keeps track of the total amount by adding the cost of each ordered item.
6. Generate Invoice:
    - Once the user decides to finish their order, the program generates an itemized invoice displaying the details of each ordered item, including ID, item name, quantity, rate, and amount.
7. Exit Option:
    - The user has the option to exit the ordering process at any time.

8. Input Validation:

    - The program checks for invalid menu choices and prompts the user to re-enter a valid choice.

9. Data Structuring:

    - The program uses a structure called Items to store details of the ordered items. This structure includes fields like ID, item name, quantity, rate, and amount.

Overall, the program provides a simple and interactive way for customers to place orders in a coffee shop, ensuring an accurate and detailed invoice for their purchases.

Code:

```
#include <iostream>
#include <iomanip>
#include <string.h>
using namespace std;
// Global Variable
float amount = 0; // To calculate the total amount.
int size = 0;     // Total items added to order
// Structure to store the ordered items and generate bill
struct Items
{
   int id;
   char item[20];
   int qty;
   float rate;
   float amt;
} I[20];
// Function Prototyping
```

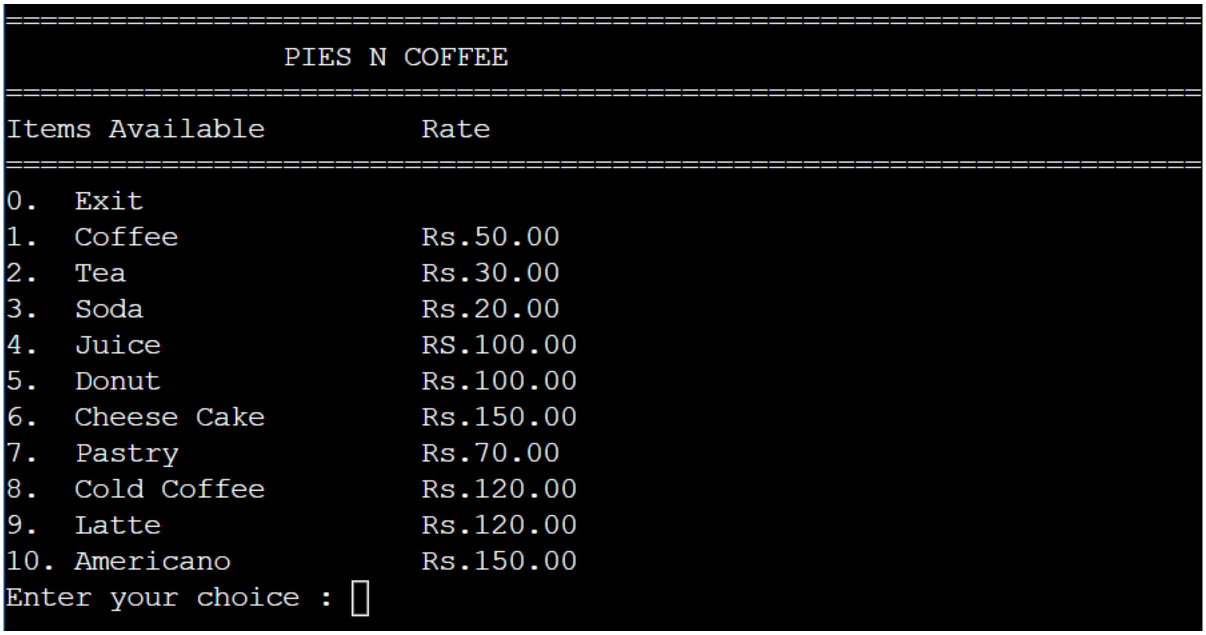
```
void Drawline();  // Function to drawline for presentation
void Header();    // Displaying Heading in Invoice
void Menu();      // Displaying Menu of Items
void ShowBill();  // Displaying Invoice

void Drawline()
{
    for (int i = 1; i < 70; i++)
        cout << "=";
    cout << endl;
}
void Header()
{
    cout << setw(10) << "I.D"
         << setw(20) << "Item Name"
         << setw(10) << "Qty"
         << setw(10) << "Rate"
         << setw(10) << "Amount"
         << endl;
}
void ShowBill()
{
    Drawline();
    cout << "\t\t\t ITEMIZED INVOICE\n";
    Drawline();
    Header();
    Drawline();
    for (int i = 0; i < size; i++)
    {
        cout << setw(10) << I[i].id
             << setw(20) << I[i].item
             << setw(10) << I[i].qty
             << setw(10) << I[i].rate
             << setw(10) << I[i].amt
             << endl;
    }
    cout << endl;
    cout << setw(50) << "Total Amount : "
         << setw(10) << amount << endl;
    Drawline();
}

void Menu()
{
    Drawline();
    cout << "\t\tPIES N COFFEE\n";
    Drawline();
    cout << "Items Available\t\tRate\n";
    Drawline();
    cout << "0.  Exit\n";
    cout << "1.  Coffee\t\tRs.50.00\n";
    cout << "2.  Tea\t\t\tRs.30.00\n";
    cout << "3.  Soda\t\tRs.20.00\n";
    cout << "4.  Juice\t\tRS.100.00\n";
    cout << "5.  Donut\t\tRs.100.00\n";
    cout << "6.  Cheese Cake\t\tRs.150.00\n";
    cout << "7.  Pastry\t\tRs.70.00\n";
    cout << "8.  Cold Coffee\t\tRs.120.00\n";
    cout << "9.  Latte\t\tRs.120.00\n";
    cout << "10. Americano\t\tRs.150.00\n";
    cout << "Enter your choice : ";  // Prompt for user input
}

int main()
{
    int ch, qty, i = 0;
    char choice = 'n';

    while (true)
    {
        Menu();
        cin >> ch;

        if (ch == 0)
            break;
```

```
cout << "Enter quantity: ";  // Prompt for user input
cin >> qty;

I[i].id = i + 1;
I[i].qty = qty;

switch (ch)
{
case 1:
    strcpy(I[i].item, "Coffee");
    I[i].rate = 50;
    break;
case 2:
    strcpy(I[i].item, "Tea");
    I[i].rate = 30;
    break;
case 3:
    strcpy(I[i].item, "Soda");
    I[i].rate = 20;
    break;
case 4:
    strcpy(I[i].item, "Juice");
    I[i].rate = 100;
    break;
```

```
case 5:
    strcpy(I[i].item, "Donut");
    I[i].rate = 100;
    break;
case 6:
    strcpy(I[i].item, "Cheese Cake");
    I[i].rate = 150;
    break;
case 7:
    strcpy(I[i].item, "Pastry");
    I[i].rate = 70;
    break;
case 8:
    strcpy(I[i].item, "Cold Coffee");
    I[i].rate = 120;
    break;
case 9:
    strcpy(I[i].item, "Latte");
    I[i].rate = 120;
    break;
case 10:
    strcpy(I[i].item, "Americano");
    I[i].rate = 150;
    break;
default:
```

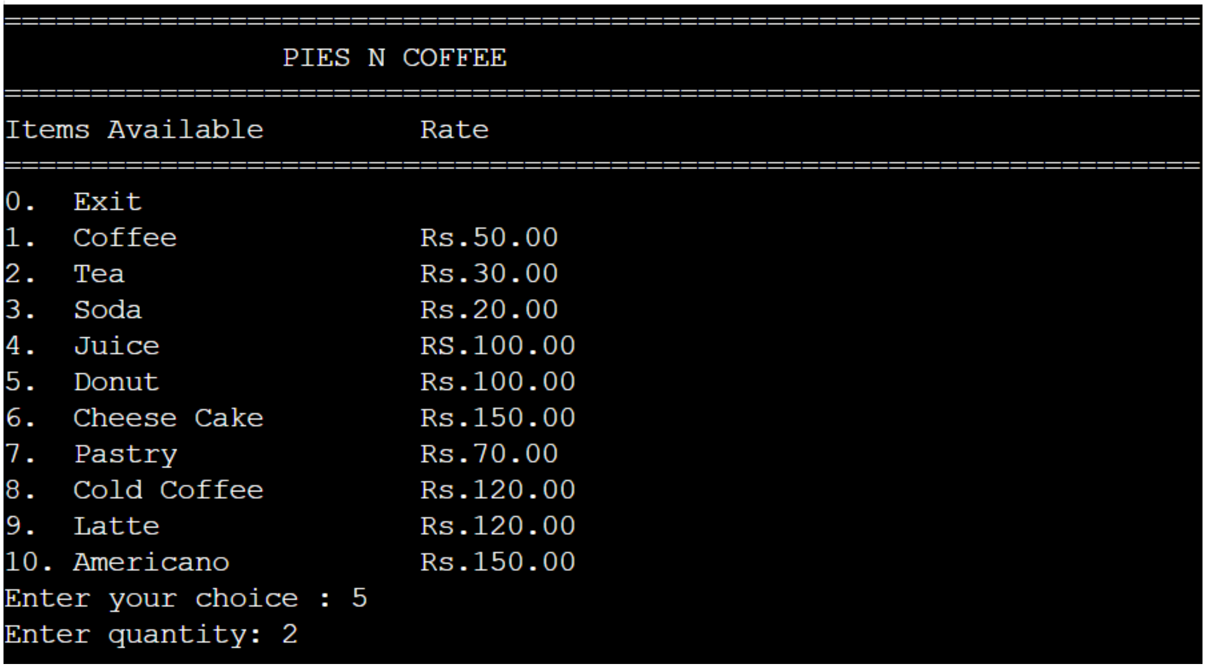
```
            cout << "Invalid choice. Try again." << endl;
            continue;
        }
        I[i].amt = I[i].qty * I[i].rate;
        amount += I[i].amt;
        i++;
        size++;
        cout << "\nDo You Want to Add More (Y/N)? ";  // Prompt for user input
        cin >> choice;

        if (choice != 'Y' && choice != 'y')
            break;
    }
    if (amount > 0)
        ShowBill();
    else
        cout << "\nNo Order Placed Yet...\n";

    return 0;
}
```

Output:



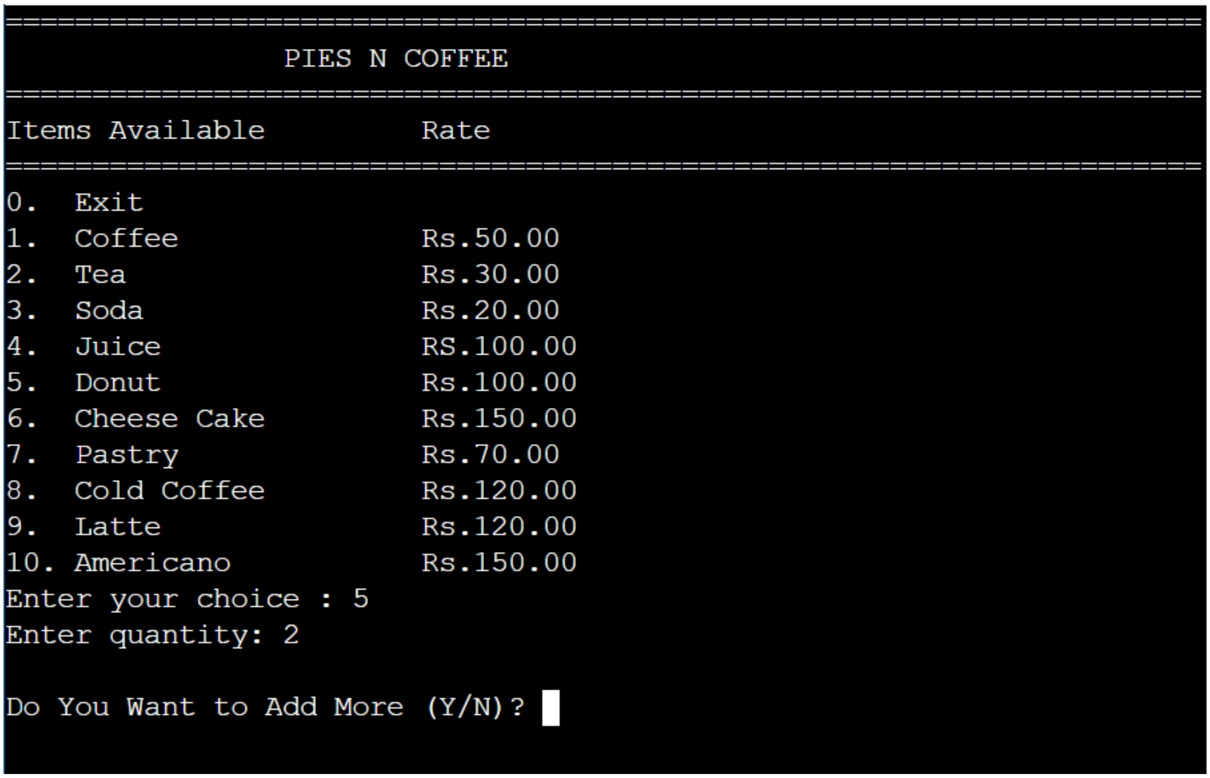
```
======================================================================
                PIES N COFFEE
======================================================================
Items Available         Rate
======================================================================
0.   Exit
1.   Coffee             Rs.50.00
2.   Tea                Rs.30.00
3.   Soda               Rs.20.00
4.   Juice              RS.100.00
5.   Donut              Rs.100.00
6.   Cheese Cake        Rs.150.00
7.   Pastry             Rs.70.00
8.   Cold Coffee        Rs.120.00
9.   Latte              Rs.120.00
10.  Americano          Rs.150.00
Enter your choice : 
```

Figure 1: Shows the menu of the coffee shop.



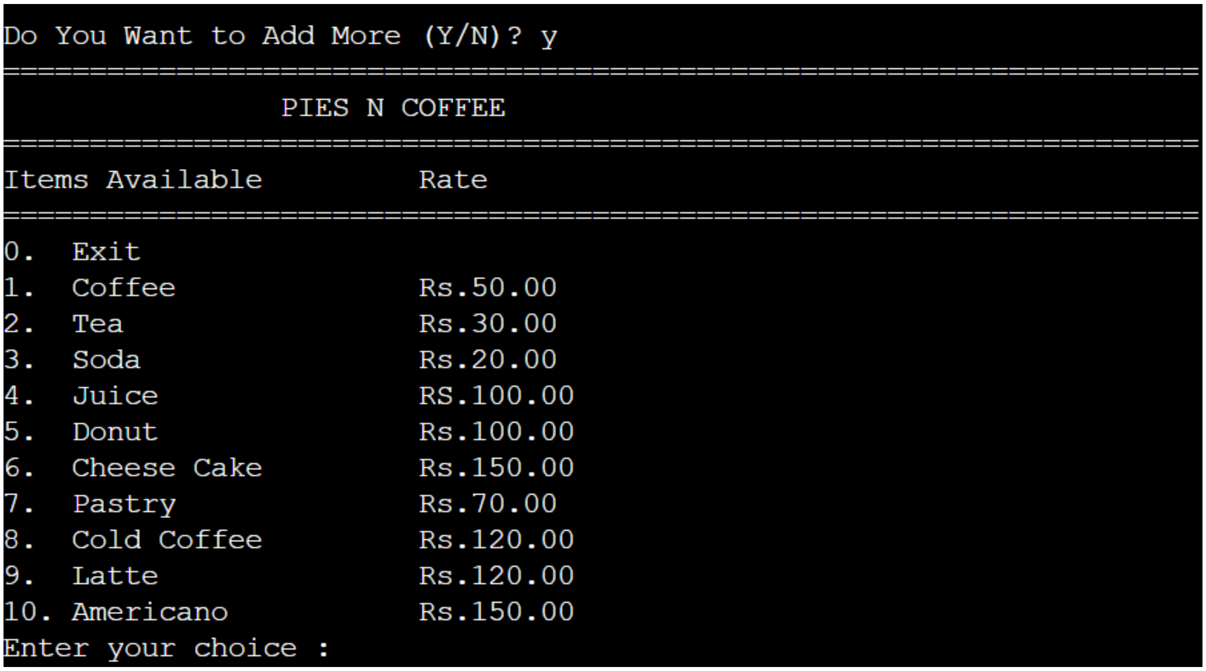
```
======================================================================
                PIES N COFFEE
======================================================================
Items Available         Rate
======================================================================
0.   Exit
1.   Coffee             Rs.50.00
2.   Tea                Rs.30.00
3.   Soda               Rs.20.00
4.   Juice              RS.100.00
5.   Donut              Rs.100.00
6.   Cheese Cake        Rs.150.00
7.   Pastry             Rs.70.00
8.   Cold Coffee        Rs.120.00
9.   Latte              Rs.120.00
10.  Americano          Rs.150.00
Enter your choice : 5
Enter quantity: 2
```

Figure 2: Asks the user to enter the choice and quantity.



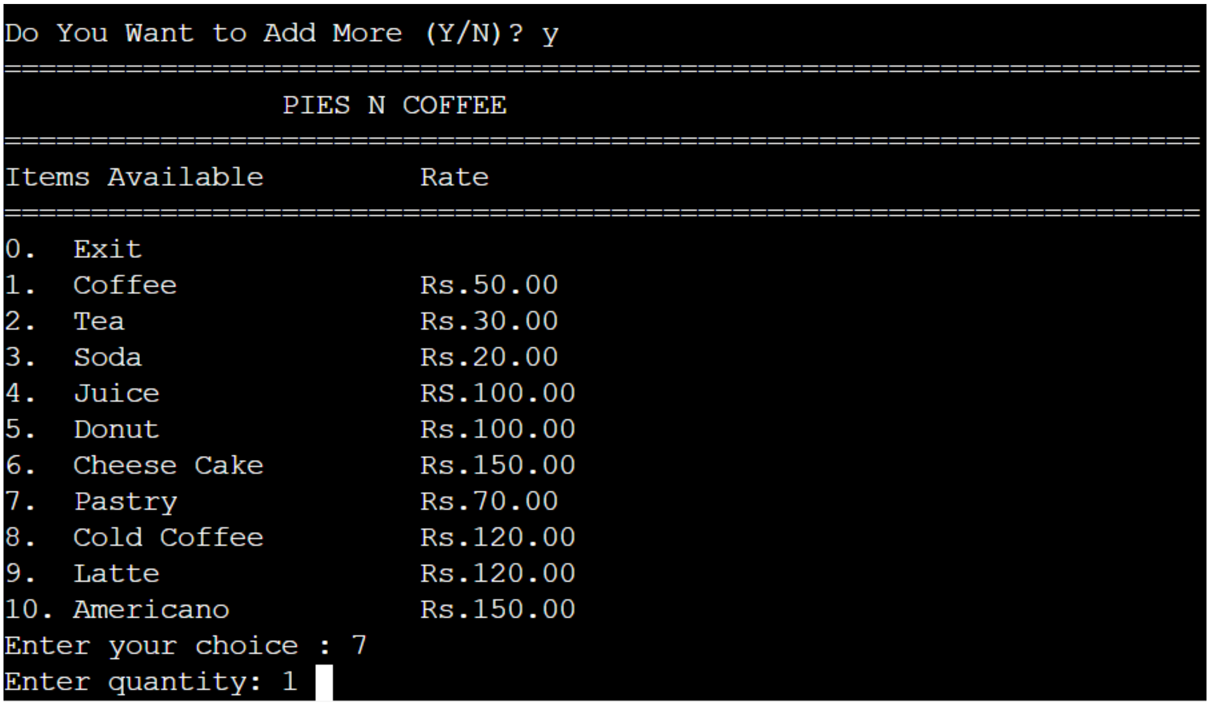
```
=====================================================================
                PIES N COFFEE
=====================================================================
Items Available         Rate
=====================================================================
0.  Exit
1.  Coffee              Rs.50.00
2.  Tea                 Rs.30.00
3.  Soda                Rs.20.00
4.  Juice               RS.100.00
5.  Donut               Rs.100.00
6.  Cheese Cake         Rs.150.00
7.  Pastry              Rs.70.00
8.  Cold Coffee         Rs.120.00
9.  Latte               Rs.120.00
10. Americano           Rs.150.00
Enter your choice : 5
Enter quantity: 2

Do You Want to Add More (Y/N)?
```

Figure 3: Asks whether the user would like to add more items.



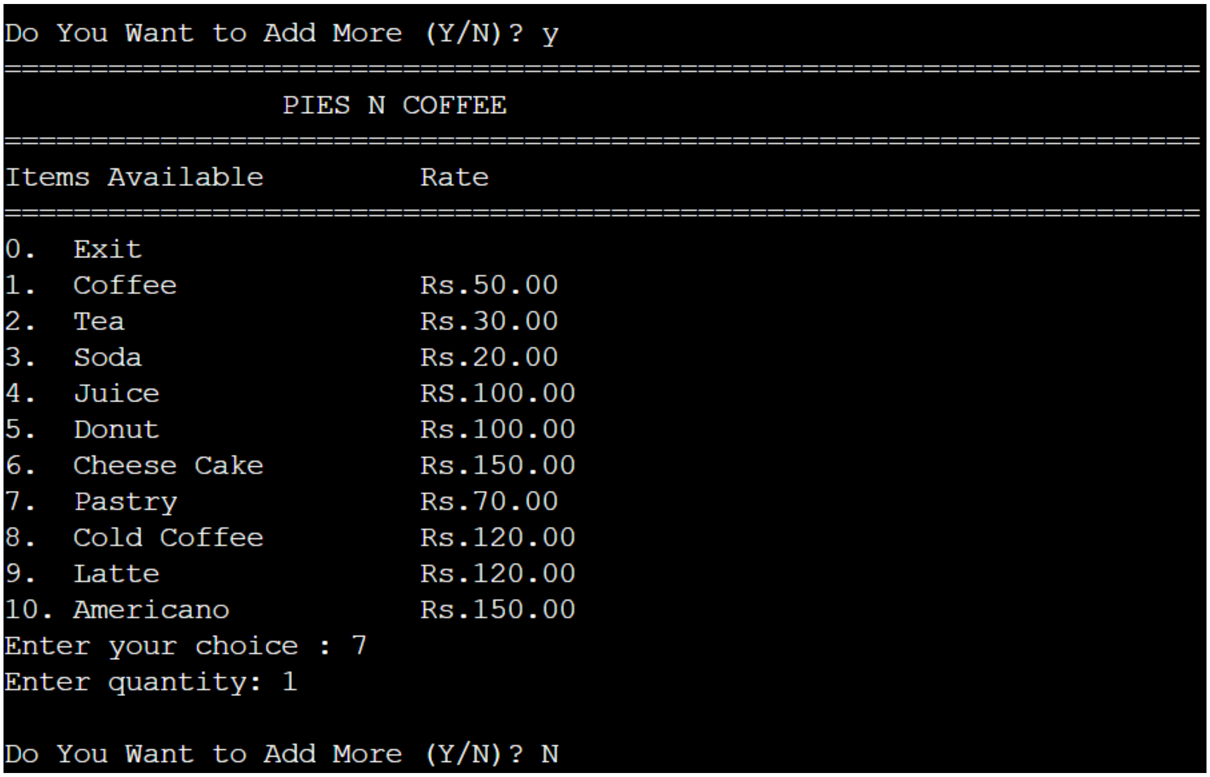
```
Do You Want to Add More (Y/N)? y
=====================================================================
                PIES N COFFEE
=====================================================================
Items Available         Rate
=====================================================================
0.  Exit
1.  Coffee              Rs.50.00
2.  Tea                 Rs.30.00
3.  Soda                Rs.20.00
4.  Juice               RS.100.00
5.  Donut               Rs.100.00
6.  Cheese Cake         Rs.150.00
7.  Pastry              Rs.70.00
8.  Cold Coffee         Rs.120.00
9.  Latte               Rs.120.00
10. Americano           Rs.150.00
Enter your choice :
```

Figure 4: Shows the menu again after choosing option ‘y’.



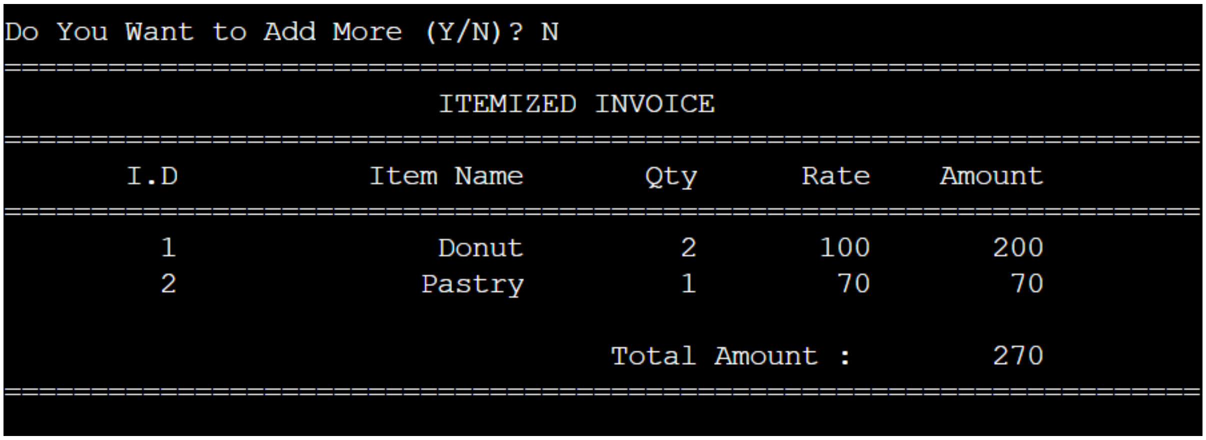
```
Do You Want to Add More (Y/N)? y
=====================================================================
                PIES N COFFEE
=====================================================================
Items Available         Rate
=====================================================================
0.  Exit
1.  Coffee              Rs.50.00
2.  Tea                 Rs.30.00
3.  Soda                Rs.20.00
4.  Juice               RS.100.00
5.  Donut               Rs.100.00
6.  Cheese Cake         Rs.150.00
7.  Pastry              Rs.70.00
8.  Cold Coffee         Rs.120.00
9.  Latte               Rs.120.00
10. Americano           Rs.150.00
Enter your choice : 7
Enter quantity: 1
```

Figure 5: Asks the user to enter the choice and quantity.



```
Do You Want to Add More (Y/N)? y
=====================================================================
                PIES N COFFEE
=====================================================================
Items Available         Rate
=====================================================================
0.  Exit
1.  Coffee              Rs.50.00
2.  Tea                 Rs.30.00
3.  Soda                Rs.20.00
4.  Juice               RS.100.00
5.  Donut               Rs.100.00
6.  Cheese Cake         Rs.150.00
7.  Pastry              Rs.70.00
8.  Cold Coffee         Rs.120.00
9.  Latte               Rs.120.00
10. Americano           Rs.150.00
Enter your choice : 7
Enter quantity: 1

Do You Want to Add More (Y/N)? N
```

Figure 6: Asks whether the user would like to add more items.



```
Do You Want to Add More (Y/N)? N
=====================================================================
                         ITEMIZED INVOICE
=====================================================================
       I.D           Item Name      Qty      Rate    Amount
=====================================================================
         1               Donut        2       100       200
         2              Pastry        1        70        70

                                   Total Amount :       270
=====================================================================
```

Figure 7: Shows the bill after entering the option ‘n’.

Result:

The program successfully achieves its objective of simulating a coffee shop ordering system. It allows the user to select items from a menu, specify quantities, and calculates the total cost of the order. It also generates an itemized invoice showing the details of each item and the total amount to be paid.

Conclusion:

This program serves as a basic prototype for a coffee shop ordering system. It demonstrates the use of data structures (struct), loops, switch statements, and functions for creating an interactive menu-driven application.

Overall, this program provides a solid foundation for a coffee shop ordering system and can be further developed and customized to meet specific requirements or integrated into a larger application.