

C Programming Assessment Test

- Write a program to demonstrate a Food Billing System

ANS:-

```
#include <stdio.h>
```

```
int main() {
```

```
    int choice, quantity;
```

```
    float total = 0;
```

```
    // Menu
```

```
    printf("===== Welcome to the Food Billing System =====\n");
```

```
    printf("Menu:\n");
```

```
    printf("1. Burger    - ₹100\n");
```

```
    printf("2. Pizza     - ₹250\n");
```

```
    printf("3. Sandwich  - ₹80\n");
```

```
    printf("4. Coffee    - ₹50\n");
```

```
    printf("5. Exit\n");
```

```
    while (1) {
```

```
        printf("\nEnter your choice (1-5): ");
```

```
        scanf("%d", &choice);
```

```
        if (choice == 5) {
```

```
            printf("\nExiting order...\n");
```

```
        break;
    }

    switch (choice) {
        case 1:
            printf("Enter quantity of Burger: ");
            scanf("%d", &quantity);
            total += quantity * 100;
            break;
        case 2:
            printf("Enter quantity of Pizza: ");
            scanf("%d", &quantity);
            total += quantity * 250;
            break;
        case 3:
            printf("Enter quantity of Sandwich: ");
            scanf("%d", &quantity);
            total += quantity * 80;
            break;
        case 4:
            printf("Enter quantity of Coffee: ");
            scanf("%d", &quantity);
            total += quantity * 50;
            break;
        default:
```

```

        printf("Invalid choice. Please try again.\n");
    }
}

// Print total bill
printf("\n===== BILL =====\n");
printf("Total Amount: ₹%.2f\n", total);
printf("Thank you! Visit again!\n");

return 0;
}

```

• **Display the Menu using appropriate codes.**

ANS:-

```

#include <stdio.h>

int main() {
    int choice, quantity;
    float total = 0;

    // Print the formatted menu using table-like layout
    printf("===== \n");
    printf("    WELCOME TO FOOD HAVEN    \n");
    printf("===== \n");
    printf("| Code |   Item   | Price (₹) | \n");

```

```
printf("|-----|-----|-----|\n");
printf("| 1 | Burger    | 100   |\n");
printf("| 2 | Pizza      | 250   |\n");
printf("| 3 | Sandwich   | 80    |\n");
printf("| 4 | Coffee     | 50    |\n");
printf("| 5 | Exit       |       |\n");
printf("=====\n");
```

```
while (1) {
    printf("\nEnter item code (1-5): ");
    scanf("%d", &choice);
```

```
    if (choice == 5) {
        printf("\nOrder completed.\n");
        break;
    }
```

```
    switch (choice) {
        case 1:
            printf("Enter quantity of Burger: ");
            scanf("%d", &quantity);
            total += quantity * 100;
            break;
        case 2:
            printf("Enter quantity of Pizza: ");
```

```

        scanf("%d", &quantity);

        total += quantity * 250;

        break;

case 3:

    printf("Enter quantity of Sandwich: ");

    scanf("%d", &quantity);

    total += quantity * 80;

    break;

case 4:

    printf("Enter quantity of Coffee: ");

    scanf("%d", &quantity);

    total += quantity * 50;

    break;

default:

    printf("Invalid code. Please select between 1 and 5.\n");

}

}

// Final bill

printf("\n===== FINAL BILL =====\n");

printf("Total Amount to Pay: ₹%.2f\n", total);

printf("=====\n");

printf("    Thank You! Visit Again! 🍷    \n");

return 0;

}

```

• For Menu kinds of Programming , use the core logic of Loops/conditional statements.

ANS:-

```
#include <stdio.h>
```

```
int main() {
```

```
    int choice, quantity;
```

```
    float total = 0;
```

```
    char continueOrdering = 'y';
```

```
    while (continueOrdering == 'y' || continueOrdering == 'Y') {
```

```
        // Display the menu
```

```
        printf("\n=====\\n");
```

```
        printf("    WELCOME TO FOOD HAVEN    \\n");
```

```
        printf("=====\\n");
```

```
        printf("| Code |   Item   | Price (₹) |\\n");
```

```
        printf("|-----|-----|-----|\\n");
```

```
        printf("| 1 | Burger   | 100   |\\n");
```

```
        printf("| 2 | Pizza    | 250   |\\n");
```

```
        printf("| 3 | Sandwich  | 80    |\\n");
```

```
        printf("| 4 | Coffee    | 50    |\\n");
```

```
        printf("=====\\n");
```

```
        // Take user input
```

```
        printf("\\nEnter item code (1-4): ");
```

```
scanf("%d", &choice);

// Process selection using if-else
if (choice == 1) {
    printf("Enter quantity of Burger: ");
    scanf("%d", &quantity);
    total += quantity * 100;
} else if (choice == 2) {
    printf("Enter quantity of Pizza: ");
    scanf("%d", &quantity);
    total += quantity * 250;
} else if (choice == 3) {
    printf("Enter quantity of Sandwich: ");
    scanf("%d", &quantity);
    total += quantity * 80;
} else if (choice == 4) {
    printf("Enter quantity of Coffee: ");
    scanf("%d", &quantity);
    total += quantity * 50;
} else {
    printf("Invalid item code! Please select from the menu.\n");
}

// Ask if user wants to continue orderin
```

- You need to strictly follow the syntaxes's of that logic which you are using.

ANS:-

```
#include <stdio.h>
```

```
int main() {
```

```
    int choice, quantity;
```

```
    float total = 0;
```

```
    char continueOrdering = 'y';
```

```
    // Repeat the menu until the user chooses not to continue
```

```
    while (continueOrdering == 'y' || continueOrdering == 'Y') {
```

```
        // Display menu
```

```
        printf("\n=====\\n");
```

```
        printf("    WELCOME TO FOOD HAVEN    \\n");
```

```
        printf("=====\\n");
```

```
        printf("| Code |   Item   | Price (₹) |\\n");
```

```
        printf("|-----|-----|-----|\\n");
```

```
        printf("| 1 | Burger   | 100   |\\n");
```

```
        printf("| 2 | Pizza    | 250   |\\n");
```

```
        printf("| 3 | Sandwich  | 80    |\\n");
```

```
        printf("| 4 | Coffee    | 50    |\\n");
```

```
        printf("=====\\n");
```

```
    // Take input for item code
```

```
    printf("Enter item code (1-4): ");
```



```
scanf("%d", &choice);

// Use if-else conditions for processing
if (choice == 1) {
    printf("Enter quantity of Burger: ");
    scanf("%d", &quantity);
    total = total + (quantity * 100);
}
else if (choice == 2) {
    printf("Enter quantity of Pizza: ");
    scanf("%d", &quantity);
    total = total + (quantity * 250);
}
else if (choice == 3) {
    printf("Enter quantity of Sandwich: ");
    scanf("%d", &quantity);
    total = total + (quantity * 80);
}
else if (choice == 4) {
    printf("Enter quantity of Coffee: ");
    scanf("%d", &quantity);
    total = total + (quantity * 50);
}
else {
    printf("Invalid item code! Please choose a valid option.\n");
}
```

```

    }

    // Ask if user wants to continue
    printf("Do you want to order another item? (y/n): ");
    scanf(" %c", &continueOrdering); // Space before %c avoids newline issue
}

// Final bill output
printf("\n===== FINAL BILL =====\n");
printf("Total Amount to Pay: ₹%.2f\n", total);
printf("===== \n");
printf("    Thank You for Visiting! 🍴    \n");

return 0;
}

```

• Write the necessary comments for better understanding to you as well as to the faculty

ANS:-

```

#include <stdio.h> // Header file for input and output functions

int main() {
    // Declare necessary variables
    int choice, quantity;    // To store user's menu choice and quantity
    float total = 0;        // To keep track of total bill

```

```
char continueOrdering = 'y'; // To control loop for multiple orders
```

```
// Loop runs as long as user enters 'y' or 'Y'
```

```
while (continueOrdering == 'y' || continueOrdering == 'Y') {
```

```
    // Display the food menu
```

```
    printf("\n=====\\n");
```

```
    printf("    WELCOME TO FOOD HAVEN    \\n");
```

```
    printf("=====\\n");
```

```
    printf("| Code |   Item   | Price (₹) |\\n");
```

```
    printf("|-----|-----|-----|\\n");
```

```
    printf("| 1 | Burger   | 100   |\\n");
```

```
    printf("| 2 | Pizza    | 250   |\\n");
```

```
    printf("| 3 | Sandwich  | 80    |\\n");
```

```
    printf("| 4 | Coffee    | 50    |\\n");
```

```
    printf("=====\\n");
```

```
    // Prompt user to enter their choice
```

```
    printf("Enter item code (1-4): ");
```

```
    scanf("%d", &choice); // Read the item code from user
```

```
    // Use if-else to process user's selection
```

```
    if (choice == 1) {
```

```
        // If user selects Burger
```

```
        printf("Enter quantity of Burger: ");
```

```
scanf("%d", &quantity);           // Read quantity
total = total + (quantity * 100);  // Add price to total
}

else if (choice == 2) {
    // If user selects Pizza
    printf("Enter quantity of Pizza: ");
    scanf("%d", &quantity);
    total = total + (quantity * 250);
}

else if (choice == 3) {
    // If user selects Sandwich
    printf("Enter quantity of Sandwich: ");
    scanf("%d", &quantity);
    total = total + (quantity * 80);
}

else if (choice == 4) {
    // If user selects Coffee
    printf("Enter quantity of Coffee: ");
    scanf("%d", &quantity);
    total = total + (quantity * 50);
}

else {
    // If user enters an invalid code
    printf("Invalid item code! Please try again.\n");
}
```

```

        // Ask the user if they want to order more items

        printf("Do you want to order another item? (y/n): ");

        scanf(" %c", &continueOrdering); // Read character input (space before %c
clears newline)

    }

    // Display final total bill

    printf("\n===== FINAL BILL =====\n");

    printf("Total Amount to Pay: ₹%.2f\n", total); // Show total price formatted to
2 decimal places

    printf("===== \n");

    printf("    Thank You for Visiting! 🍴    \n");

    return 0; // Exit the program
}

```

Adhere to the coding principles

Execution Flow of the Project:

o First, display the food items available o Then after the user can choose any of the item displayed

o Also take the quantity of selected food item by the customer, then ask the user that he/she wanna select more?

o If yes then again display the food items available and take an order from the customer. Here, you have to consider the total bill as the price of food

items previously selected plus the price of new items added should display as a whole bill.

o If no then display the final bill on the screen

ANS:-

```
#include <stdio.h> // For standard input and output functions

int main() {

    // ===== Variable Declarations =====

    int choice, quantity;    // For storing user choice and quantity

    float total = 0.0;      // To store the running total of the bill

    char continueOrder = 'y'; // To control whether to continue ordering

    // Start the ordering process

    while (continueOrder == 'y' || continueOrder == 'Y') {

        // ===== Step 1: Display Menu =====

        printf("\n===== \n");

        printf("    WELCOME TO FOOD HAVEN    \n");

        printf("===== \n");

        printf("| Code |   Item   | Price (₹) | \n");

        printf("|-----|-----|-----| \n");

        printf("| 1 | Burger   | 100   | \n");

        printf("| 2 | Pizza    | 250   | \n");

        printf("| 3 | Sandwich | 80    | \n");

        printf("| 4 | Coffee   | 50    | \n");

        printf("===== \n");
```

```
// ===== Step 2: Take User Selection =====  
  
printf("Enter the item code you want to order (1-4): ");  
scanf("%d", &choice);  
  
// ===== Step 3: Take Quantity and Add to Total =====  
  
if (choice == 1) {  
    printf("Enter quantity of Burger: ");  
    scanf("%d", &quantity);  
    total = total + (quantity * 100); // ₹100 per Burger  
}  
  
else if (choice == 2) {  
    printf("Enter quantity of Pizza: ");  
    scanf("%d", &quantity);  
    total = total + (quantity * 250); // ₹250 per Pizza  
}  
  
else if (choice == 3) {  
    printf("Enter quantity of Sandwich: ");  
    scanf("%d", &quantity);  
    total = total + (quantity * 80); // ₹80 per Sandwich  
}  
  
else if (choice == 4) {  
    printf("Enter quantity of Coffee: ");  
    scanf("%d", &quantity);  
    total = total + (quantity * 50); // ₹50 per Coffee
```

```

    }
    else {
        printf(" ❌ Invalid item code! Please select from 1 to 4.\n");
    }

    // ===== Step 4: Ask If User Wants to Order More =====
    printf("\nDo you want to order more items? (y/n): ");
    scanf(" %c", &continueOrder); // Note: space before %c clears newline
}

// ===== Step 5: Display Final Bill =====
printf("\n===== \n");
printf("      FINAL BILL      \n");
printf("===== \n");
printf("Total Amount to Pay: ₹%.2f\n", total); // Display total with 2 decimal
places
printf("===== \n");
printf("    Thank You for Visiting Food Haven! 🍕\n");

return 0; // End of program
}

```

Sample Execution (User Flow):

WELCOME TO FOOD HAVEN

Code	Item	Price
------	------	-------

1	Item 1	100
---	--------	-----

1	Burger	100	
2	Pizza	250	
3	Sandwich	80	
4	Coffee	50	

Enter the item code you want to order (1-4): 2

Enter quantity of Pizza: 1

Do you want to order more items? (y/n): y

WELCOME TO FOOD HAVEN

...

Enter the item code you want to order (1-4): 4

Enter quantity of Coffee: 2

Do you want to order more items? (y/n): n

FINAL BILL

Total Amount to Pay: ₹350.00