Code Report: Ice Cream Shop Management System

Overview :

This C++ program implements a basic ice cream shop management system with two primary functionalities: customer ordering and branch management. The system features a colorful command-line interface and supports both Windows and Unix-based operating systems.

Program Structure :

The code is organized into three main components:

1. Helper Functions
2. Customer_order Class
3. Branch_manager Class
4. Main Function

Helper Functions

clearScreen()

cpp

```
void clearScreen() {
ifdef _WIN32
   system("cls");
else
   system("clear");
endif
}
```

This function clears the console screen, providing cross-platform compatibility.

coloredText()

cpp

```
void coloredText(const char* text, const char* colorCode) {
   cout << "\033[" << colorCode << "m" << text << "\033[0m";
}
```

This function prints colored text to the console, enhancing the visual appeal of the interface.

Customer_order Class

This class handles customer interactions and order processing:

- Displays the ice cream menu
- Gets quantity input from customers
- Processes item selections
- Generates bills

Key member functions:

- menu() : Displays available ice cream options
- quantity() : Gets the number of items to order
- getdata() : Collects item codes for the order
- billing() : Calculates and displays the total cost

Branch_manager Class

This class manages the shop's inventory:

- Displays current stock levels

- Updates inventory quantities

Key member functions :

- inventory() : Shows the current stock status
- update_inventory() : Allows updating of inventory quantities

Main Function :

The main function serves as the entry point and controls the overall program flow:

- Prints a welcome message
- Prompts the user to choose between customer mode and branch manager mode
- Implements a loop to continue operations until the user chooses to exit

User Interface :

The program features a colorful, text-based interface designed to be visually appealing and easy to navigate. It uses ANSI escape sequences for text coloring and formatting.

Cross-platform Compatibility :

The code includes conditional compilation directives (`#ifdef _WIN32`) to ensure proper execution on both Windows and Unix-based systems.

Data Structures :

- Arrays are used to store item codes and prices within the Customer_order class.
- Integer variables are employed to represent inventory quantities in the Branch_manager class.

Control Flow :

The program utilizes a combination of if-else statements, loops, and switch-case constructs to manage user interactions and process orders.

Error Handling :

Basic input validation is implemented, such as limiting order quantities and checking for valid item codes.

Conclusion :

This ice cream shop management system demonstrates a structured approach to implementing a small-scale business application. It showcases the use of object-oriented programming principles, modular design, and cross-platform considerations. The colorful interface enhances user interaction, making the system more engaging for both customers and staff members.