C++ SCOOP MAGIC ICECREAM

CREATED BY
RASHID TAGAR

SUBMITTED TO: SIR
SAJJAD

ROLL NO : 25SW055

Introduction:

This project simulates an Ice Cream Vending Machine using C++. It is specially designed for Sindhi people living anywhere in the world and that's why its theme is set as welcoming the people in the tone of Mitha Marhoo which is a Sindhi word, it allows users to interact with a menu, choose ice cream flavours, view prices, and learn about special monthly offers. The project demonstrates object-oriented programming concepts such as data encapsulation, user interaction, and real-time feedback using delays and animations. This makes the system feel more realistic and user-friendly.

CODE:

Header Files Used:

Header File	Purpose and Functionality
#include <iostream>	Used for input/output operations (cin, cout).

#include <string>	**Allows usage of the string datatype to store names and labels.**
#include <conio.h>	**Contains the function getch(), which waits for a key press without pressing Enter. Used to pause screens.**
#include <windows.h>	**Contains the Sleep() function which pauses program execution for a given time (in milliseconds).**

Class Used:

Class Name: IceCreamMachine

This class is responsible for storing ice cream-related data (flavours, buttons, and prices) and providing functions that allow the user to view and select flavours, see offers, and enjoy animated output messages.

Attributes (Data Members):

- buttons[4]: Stores button numbers and their respective colours.

- flavours[4]: Stores available ice cream flavour names.

- functions[4]: Stores instructions on which button selects which flavour.

- actualPrice[4]: Stores the original prices before discount.

- discountPrice[4]: Stores discounted prices for November sale.

- int button: Stores user input when selecting a flavour.

Functions and Their Purpose:

• animatedText(string text, int delay): Displays text slowly character-by-character to give animation effect.

• welcomeMessage(): Displays a welcoming greeting to the user before showing the menu.

• showMenu(): Displays the main menu with available options for the user.

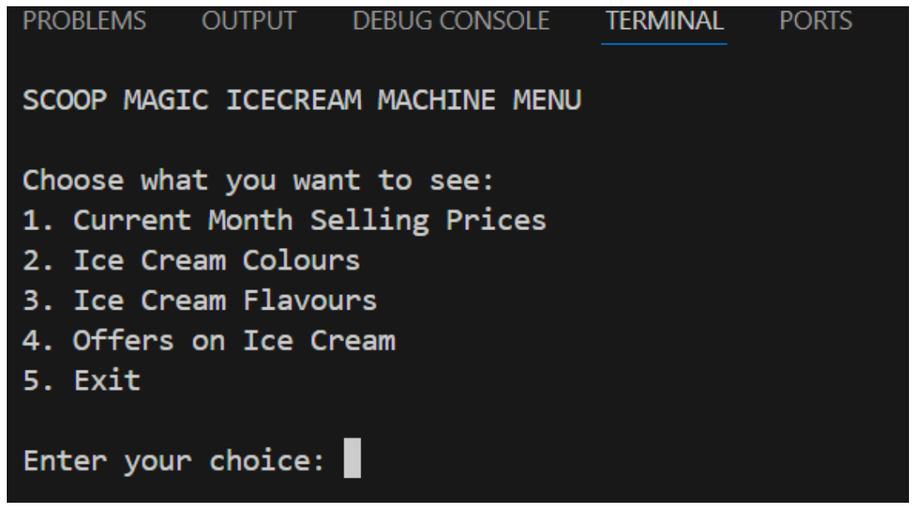
• showPrices(): Shows old prices and discounted prices of ice creams.

• showColours(): Displays which colours correspond to which ice cream button.

• showFlavours(): Shows the available flavours and their corresponding buttons.

- **showOffers(): Displays special monthly offers.**
- **selectFlavour(): Allows the user to select a flavour by pressing a button number (1–4).**
- **run(): Controls the main loop of the system and calls functions based on user input.**

USER INTERFACE:



FUNCTIONALITIES:

When the program runs, the user will see a menu on the output screen with different options. Each option shows a specific feature of the Ice Cream Machine. The details are given below:

1. **No one: Current Month Selling Prices**
   In this section, you can view the selling prices of ice creams for the current month. It helps to know which ice creams are available and how their prices may have changed recently.
2. **Ice Cream Colours**
   This option displays the different colours of the ice creams. Each colour represents a unique flavour,

such as red, yellow, green, or pink. The colours make the ice creams more attractive and help users easily identify their favourite ones.

3.Ice Cream Flavours

Here you can explore the different flavours available in the machine. Some popular flavours include chocolate, pink flavour, strawberry, and white cream. You can select any flavour you like from this menu.

4.Offers on Ice Cream

In this section, you will find special offers and discounts on various ice cream flavours. For example, you might get deals like “Buy 2, Get 1 Free” or “Buy Red and Pink, Get 2 Ice Creams Free.” These offers make it more enjoyable and affordable to buy your favourite ice creams.

5.Exit

If you want to close the program, you can select option number 6 from the menu. This will safely exit the Ice Cream Machine and end the program.

Purpose of Main Function:

The main() function creates an object of the IceCreamMachine class and calls its run() function. The run() function handles the menu system and drives the entire program. This ensures a clean and organized structure where the main function only initializes the system instead of handling logic directly.

Explanation of Special Functions:

- **getch(): Pauses the program until the user presses any key. It does not require pressing Enter**
- **Sleep(): Pauses program execution for a specified amount of time (in milliseconds), used to create animation and delay effects.**

Conclusion:

This project provides a practical demonstration of object-oriented programming and user interaction design. By simulating a real-life ice cream vending machine, it allows the user to experience system navigation, menu selection, price checking, and product selection in an interactive manner. The use of Sleep() and animated text enhances the visual feel of the system, making it seem more engaging and professional. Overall, this project successfully meets its objective of teaching structured programming while making the user experience enjoyable and meaningful.