# Supermarket Billing System

## A Project Report

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## Introduction:

Welcome to the project report for the "Supermarket Billing System" developed by Srijan Shivakumar Kakhandaki. This project is an implementation of a billing system for a supermarket using the C++ programming language. The system allows users to select items from different grocery sections, enter the quantity they want to purchase, and generates a bill at the end of the transaction with a suitable discount.

## Project Code:

```
// Program to implement a billing system for a supermarket

#include <stdio.h>
#include <stdlib.h>
#include <stdarg.h>
#include <time.h>

int main ()

{
```

```
	int i;
	float disctot = 0, total = 0;
	char y, n, name, skipsection;
	int section;
	float fruitcount, fruitstore, fruitquantity, fruittotal1 = 0, fruittotal2 = 0, fruittotal3 = 0, fruittotal4 = 0, fruittot = 0;
	float vegetablecount, vegetablestore, vegetablequantity, vegetotal1 = 0, vegetotal2 = 0, vegetotal3 = 0, vegetotal4 = 0, vegetot = 0;
	float meatcount, meatstore, meatquantity, meattotal1 = 0, meattotal2 = 0, meattotal3 = 0, meattotal4 = 0, meattot = 0;
	float dairycount, dairystore, dairyquantity, dairytotal1 = 0, dairytotal2 = 0, dairytotal3 = 0, dairytotal4 = 0, dairytot = 0;
	printf ("\033[0;33m");
	printf ("====== WELCOME TO SRIJAN'S SUPERMARKET ====== \n \n");
	time_t tm;
  time(&tm);
  printf("%s", ctime(&tm));
	printf ("\033[0;37m");

	for (i=0; i<4; i++)
	{
		printf ("\033[0;31m");
		printf ("\n");
		printf ("Choose a grocery section you would like to proceed with: \n \n");
		printf ("\033[0;37m");
		printf ("1: Fruits \n2: Vegetables \n3: Frozen Meat \n4: Dairy Products \n \n");
		scanf ("%d", &section);
		printf ("\n");

		switch (section)

		{
			case 1:
```

```
                printf ("These are the items that are freshly available at the fruit
section: \n \n");
                printf ("1. Mangoes \t----- Rs. 450/dozen \n2. Bananas \t-----
Rs.150/dozen \n3. Apples \t----- Rs.120/dozen \n4. Grapes \t----- Rs.100/kg \n \n");
                printf ("How many types of fruits would you like to purchase
from this section? ");
                scanf ("%f", &fruitcount);
                printf ("\n");

                for (i=0; i<fruitcount; i++)
                {
                        printf ("Enter the serial number of the fruit: ");
                        scanf ("%f", &fruitstore);
                        printf ("Enter the quantity in numbers: ");
                        scanf ("%f", &fruitquantity);
                        printf ("\n");
                        if (fruitstore == 1)
                        {
                                fruittotal1 = 450 * fruitquantity;
                        }
                        if (fruitstore == 2)
                        {
                                fruittotal2 = 150 * fruitquantity;
                        }
                        if (fruitstore == 3)
                        {
                                fruittotal3 = 120 * fruitquantity;
                        }
                        if (fruitstore == 4)
                        {
                                fruittotal4 = 100 * fruitquantity;
                        }
                }
```

```
                                fruittot = fruittot + fruittotal1 + fruittotal2 + fruittotal3
+ fruittotal4;
                                printf ("\033[0;32m");
                                printf ("The amount due for the fruit section is Rs.%.2f \n
\n", fruittot);
                                printf ("\033[0;37m");

                        printf ("Do you want to proceed to other grocery sections? [y/n]
");
                        scanf ("%s", &skipsection);

                        if (skipsection == 'n')
                        {
                        total = fruittot + vegetot + meattot + dairytot;
                        disctot = total * 5/100 ;
                        disctot = total - disctot;
                        printf ("\n");
                        printf ("\033[0;33m");
                        printf("\t SRIJAN'S SUPERMARKET \n");
                printf("\t---------------------- \n");
                printf ("\033[0;37m");
                printf("\n");
                printf ("\033[0;32m");
                printf ("Your Total bill amount is Rs.%.2f \n \n", total);
                printf ("A five percent discount awaits you as this store has newly been
opened \n \n");
                printf ("\033[0;33m");
                printf ("Your total payable amount after discount is Rs.%.2f \n \n",
disctot);
                printf ("\033[0;32m");
                printf ("%s", "Thank you for shopping with us! \n \n");
                printf ("%s", "Have a great day ahead!");
                printf ("\033[0;37m");
```

```
printf("\n");
exit (0);
        }

        break;


case 2:
        printf ("These are the items that are freshly available at the vegetable section: \n \n");
        printf ("1. Onions \t----- Rs.140/kg \n2. Tomatoes \t----- Rs.120/kg \n3. Carrots \t----- Rs.50/kg \n4. Potatoes \t----- Rs.30/kg \n \n");
        printf ("How many types of vegetables would you like to purchase from this section? ");
        scanf ("%f", &vegetablecount);
        printf ("\n");

        for (i=0; i<vegetablecount; i++)
        {
            printf ("Enter the serial number of the vegetable: ");
            scanf ("%f", &vegetablestore);
            printf ("Enter the quantity in numbers: ");
            scanf ("%f", &vegetablequantity);
            printf ("\n");
            if (vegetablestore == 1)
            {
                vegetotal1 = 140 * vegetablequantity;
            }
            if (vegetablestore == 2)
            {
                vegetotal2 = 120 * vegetablequantity;
            }
            if (vegetablestore == 3)
```

```
                {
                        vegetotal3 = 50 * vegetablequantity;
                }
                if (vegetablestore == 4)
                {
                        vegetotal4 = 30 * vegetablequantity;
                }
        }
                vegetot = vegetotal1 + vegetotal2 + vegetotal3 +
vegetotal4;
                printf ("\033[0;32m");
                printf ("The amount due for the vegetable section is
Rs.%.2f \n \n", vegetot);
                printf ("\033[0;37m");

        printf ("Do you want to proceed to other sections? [y/n] ");
        scanf ("%s", &skipsection);

        if (skipsection == 'n')
        {
        total = fruittot + vegetot + meattot + dairytot;
        disctot = total * 5/100 ;
        disctot = total - disctot;
        printf ("\n");
        printf ("\033[0;33m");
        printf("\t SRIJAN'S SUPERMARKET \n");
    printf("\t---------------------- \n");
    printf ("\033[0;37m");
    printf("\n");
    printf ("\033[0;32m");
    printf ("Your Total bill amount is Rs.%.2f \n \n", total);
    printf ("A five percent discount awaits you as this store has newly been
opened \n \n");
```

```
                printf ("\033[0;33m");
                printf ("Your total payable amount after discount is Rs.%.2f \n \n",
disctot);
                printf ("\033[0;32m");
                printf ("%s", "Thank you for shopping with us! \n \n");
                printf ("%s", "Have a great day ahead!");
                printf ("\033[0;37m");
                printf("\n");
                exit (0);
                        }

                        break;

                case 3:
                        printf ("These are the items that are freshly available at the meat
section: \n \n");
                        printf ("1. Chicken Thighs \t----- Rs.500/kg \n2. Pomfret Fish
\t----- Rs.750/piece \n3. Whiteleg Shrimp \t----- Rs.600/kg \n4. Maine Lobster \t-----
Rs.1200/piece \n \n");
                        printf ("How many types of meat would you like to purchase
from this section? ");
                        scanf ("%f", &meatcount);
                        printf ("\n");

                        for (i=0; i<meatcount; i++)
                        {
                                printf ("Enter the serial number of the meat: ");
                                scanf ("%f", &meatstore);
                                printf ("Enter the quantity in numbers: ");
                                scanf ("%f", &meatquantity);
                                printf ("\n");
                                if (meatstore == 1)
                                {
```

```
                meattotal1 = 500 * meatquantity;
        }
        if (meatstore == 2)
        {
                meattotal2 = 750 * meatquantity;
        }
        if (meatstore == 3)
        {
                meattotal3 = 600 * meatquantity;
        }
        if (meatstore == 4)
        {
                meattotal4 = 1200 * meatquantity;
        }
}
        meattot = meattotal1 + meattotal2 + meattotal3 +
meattotal4;
        printf ("\033[0;32m");
        printf ("The amount due for the meat section is Rs.%.2f
\n \n", meattot);
        printf ("\033[0;37m");

printf ("Do you want to proceed to other grocery sections? [y/n]
");
scanf ("%s", &skipsection);

if (skipsection == 'n')
{
total = fruittot + vegetot + meattot + dairytot;
disctot = total * 5/100 ;
disctot = total - disctot;
printf ("\n");
printf ("\033[0;33m");
```

```
                printf("\t SRIJAN'S SUPERMARKET \n");
            printf("\t---------------------- \n");
            printf ("\033[0;37m");
            printf("\n");
            printf ("\033[0;32m");
            printf ("Your Total bill amount is Rs.%.2f \n \n", total);
            printf ("A five percent discount awaits you as this store has newly been
opened \n \n");
            printf ("\033[0;33m");
            printf ("Your total payable amount after discount is Rs.%.2f \n \n",
disctot);
            printf ("\033[0;32m");
            printf ("%s", "Thank you for shopping with us! \n \n");
            printf ("%s", "Have a great day ahead!");
            printf ("\033[0;37m");
            printf("\n");
            exit (0);
                }

                break;

            case 4:
                printf ("These are the items that are freshly available at the dairy
section: \n \n");
                printf ("1. Milk \t----- Rs.30/ltr \n2. Cheese \t----- Rs.50/pack
\n3. Yogurt \t----- Rs.40/piece \n4. Butter \t----- Rs.100/pack \n \n");
                printf ("How many types of dairy products would you like to
purchase from this section? ");
                scanf ("%f", &dairycount);
                printf ("\n");

                for (i=0; i<dairycount; i++)
                {
```

```
                printf ("Enter the serial number of the dairy product: ");
                scanf ("%f", &dairystore);
                printf ("Enter the quantity in numbers: ");
                scanf ("%f", &dairyquantity);
                printf ("\n");
                if (dairystore == 1)
                {
                        dairytotal1 = 30 * dairyquantity;
                }
                if (dairystore == 2)
                {
                        dairytotal2 = 50 * dairyquantity;
                }
                if (dairystore == 3)
                {
                        dairytotal3 = 40 * dairyquantity;
                }
                if (dairystore == 4)
                {
                        dairytotal4 = 100 * dairyquantity;
                }
        }
                dairytot = dairytotal1 + dairytotal2 + dairytotal3 +
dairytotal4;
                printf ("\033[0;32m");
                printf ("The amount due for the dairy product section is
Rs.%.2f \n \n", dairytot);
                printf ("\033[0;37m");

        printf ("Do you want to proceed to other grocery sections? [y/n]
");
        scanf ("%s", &skipsection);
```

```
                    if (skipsection == 'n')
                    {
                    total = fruittot + vegetot + meattot + dairytot;
                    disctot = total * 5/100 ;
                    disctot = total - disctot;
                    printf ("\n");
                    printf ("\033[0;33m");
                    printf("\t SRIJAN'S SUPERMARKET \n");
                printf("\t---------- \n");
                printf ("\033[0;37m");
                printf("\n");
                printf ("\033[0;32m");
                printf ("Your Total bill amount is Rs.%.2f \n \n", total);
                printf ("A five percent discount awaits you as this store has newly been
opened \n \n");
                printf ("\033[0;33m");
                printf ("Your total payable amount after discount is Rs.%.2f \n \n",
disctot);
                printf ("\033[0;32m");
                printf ("%s", "Thank you for shopping with us! \n \n");
                printf ("%s", "Have a great day ahead!");
                printf ("\033[0;37m");
                printf("\n");
                exit (0);
                    }

                    break;

                    default:
                    printf ("Sorry, this section does not exist in our supermarket! \n");

                }
```

```
        }

                                total = fruittot + vegetot + meattot + dairytot;
                                disctot = total * 5/100 ;
                                disctot = total - disctot;
                                printf ("\n");
                                printf ("\033[0;33m");
                                printf("\t SRIJAN'S SUPERMARKET \n");
                        printf("\t---------------------- \n");
                        printf ("\033[0;37m");
                        printf("\n");
                        printf ("\033[0;32m");
                        printf ("Your Total bill amount is Rs.%.2f \n \n", total);
                        printf ("A five percent discount awaits you as this store has newly been
opened \n \n");
                        printf ("\033[0;33m");
                        printf ("Your total payable amount after discount is Rs.%.2f \n \n",
disctot);
                        printf ("\033[0;32m");
                        printf ("%s", "Thank you for shopping with us! \n \n");
                        printf ("%s", "Have a great day ahead!");
                        printf ("\033[0;37m");
                        printf("\n");
                        exit (0);


                return 0;
  }
```

# Code Explanation:

The C++ code for the supermarket billing system is structured as follows:

Header Files: The necessary header files like <stdio.h>, <stdlib.h>, <stdarg.h>, and <time.h> are included.

Main Function: The main function initializes variables for various grocery sections, item quantities, and totals. It then prompts users to choose a grocery section and select items. The code utilizes a switch-case statement for each grocery section.

Grocery Sections: For each grocery section (fruits, vegetables, meat, and dairy), the system displays available items with prices. Users can select the type and quantity of items they want to purchase.

Total Calculation: The code calculates the total amount for each grocery section and provides an option to proceed to other sections or exit. After processing all sections, the final bill, including a 5% discount for the newly opened store, is displayed.

# Sample Output:

```
====== WELCOME TO SRIJAN'S SUPERMARKET ======

Sun Dec 31 12:27:18 2023

Choose a grocery section you would like to proceed with:

1: Fruits
2: Vegetables
3: Frozen Meat
4: Dairy Products

3

These are the items that are freshly available at the meat section:

1. Chicken Thighs       ----- Rs.500/kg
2. Pomfret Fish         ----- Rs.750/piece
3. Whiteleg Shrimp      ----- Rs.600/kg
4. Maine Lobster        ----- Rs.1200/piece

How many types of meat would you like to purchase from this section? 1

Enter the serial number of the meat: 1
Enter the quantity in numbers: 2

The amount due for the meat section is Rs.1000.00

Do you want to proceed to other grocery sections? [y/n] n

         SRIJAN'S SUPERMARKET
        ---------------------

Your Total bill amount is Rs.1000.00

A five percent discount awaits you as this store has newly been opened

Your total payable amount after discount is Rs.950.00

Thank you for shopping with us!

Have a great day ahead!
```

## Fun Prospects:

During the development of this project, Srijan explored various aspects of C++ programming, including user input handling, decision-making, and basic arithmetic operations. The inclusion of real-time date and time adds a dynamic element to the project. Future enhancements could include integrating a graphical user interface (GUI), database management for inventory tracking, and expanding the range of available products.

## Conclusion:

In conclusion, the supermarket billing system project provides a user-friendly interface for customers to select and purchase items from different grocery sections. The code is well-organized, utilizing loops and switch-case statements for efficient execution. This project serves as an excellent introduction for a first-time project developer at an engineering institution, showcasing practical application and implementation of programming concepts.

Remember, this project marks the beginning of a promising journey into the world of programming and software development. Keep exploring, learning, and coding!