

Activity 3.CAFE Bill Generator

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Research:

A cafe bill generator is a digital tool, often an online platform, that automates the process of creating itemized receipts or invoices for customers in a cafe.

Examples of cafe billing systems include cloud-based platforms like Toast, Square, and **** Lightspeed****; industry-specific software such as TouchBistro; and Indian market solutions like **** myBillBook****, **** Vyapar****, and **** Moon POS****.

About POS-

POS(POINT OF SCALE) billing system processes orders and generates bills. But dig deeper, and you'll find it quietly managing your entire operation, automatically updating stock when a cappuccino is served, notifying you when coffee beans are running low, helping you identify which dish is most loved, and even ensuring your staff stays accountable.

The cashier takes the order using the POS.

~ The recipe engine calculates how much coffee, milk, bread, and cheese is needed.

~ The inventory module deducts those quantities from your stock in real-time.

~ The order is sent directly to the kitchen display system (KDS).

~ Once served, the POS logs the sale, adds loyalty points (if applicable), and prints the GST-compliant bill.

For bill format

<https://www.makereceipt.com/create-receipt-online.php?style=Coffee+Shop+Receipt>

Companies using POS-

<https://www.connectpos.com/starbuck-pos/>

<https://digirestro.in/which-pos-system-is-used-by-cafe-coffee-day-in-india/>

About pos-

<https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://ivepos.com/cafe-pos/&ved=2ahUKEwjpxo6iglaQAxV2aPUHHT8MI1QQFnoECDkQAQ&usq=AOvVaw3bWVsNPB9DwT7FpLJIM5nj>

Code:

<https://www.geeksforgeeks.org/c/c-arrays/> (arrays)

<https://www.researchgate.net/post/In-c-what-is-printf7d> (%[length]formatspecifier)

Use of POS

A cafe POS (Point of Sale) billing system automates and manages cafe operations by handling order taking, bill generation, payment processing, inventory tracking, and customer management, leading to faster service, increased accuracy, enhanced customer loyalty through personalized offers, and real-time insights for better business decisions.

Examples of Cafes and Their POS Systems

- **Starbucks**: Uses a proprietary POS system to gather sales data, track customer preferences, and manage inventory.
- **Cafe Coffee Day (India)**: Employs the Vend POS system to manage sales, inventory, and customer loyalty across its many Indian locations.

ANALYSING:

A billing system is a software solution that automates the process of generating invoices, calculating payments, managing customer purchases, and keeping financial records. These systems are widely used in retail, cafes, hospitals, utilities, telecom, and e-commerce.

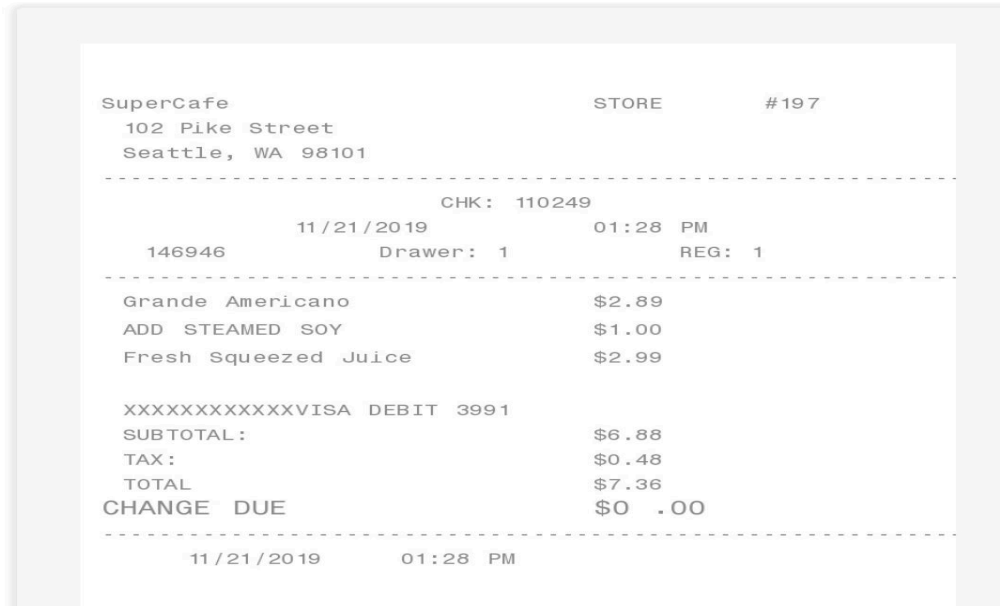
To make a coffee bill generator, where the user inputs the customer name, Address, Telephone number, Date, Time, Number of Items. Then from the loop ask the user, Item number, Quantity, price per item.

Then finally print the bill using c program code(through online c-compiler).

CODE:

In order to make the billing system possible, arrays are used in the c program language.

And for the space in the bill(output) a number is added(for example-"%7d"), for 7 space to be occupied.



(Sample receipt)

IDEA:

In many cafés, billing is still done manually or with basic calculators. This causes:

- Calculation mistakes in totals, discounts, or taxes
- Longer waiting times for customers
- Difficulty in maintaining sales records
- Lack of data for business analysis

Objective → Develop a POS cafe billing system that automates billing, reduces errors, speeds up service, and keeps track of transactions.

Algorithm:

1.START

2.Input - enter name as(name)

3.Input - address as(address)

4.Input -date as (date)

5.Input- time as (time)

6.Input -number of items as (itemcount)

7. In for loop(int i=0;i< itemcount; i++)

(Use of array) itemno[i]=i

- Input -Print item number as (itemno[i]).
- Input - Item name as (itemname[i]).
- Input -quantity as (quantity[i]).
- Input - price as (price[i]).

8.SET total=quantity *price

9.SET grandtotal=grandtotal+total

10.Display bill in the format.

- output(print)
=====BILL=====
- Print - name as (name),address as (address),date as (date),time as (time);
- Print (Output) -item number as(itemno), item name as (itemname),quantity as (quantity), price as (price), total as (total) ;

- In for loop - (int i = 0; i < itemcount; i++)

```
printf("%7d | %15s | %3d | %1.2f | %f\n",itemno[i+1], itemname[i+1],  
quantity[i+1], price[i+1],total[i+1]);
```

(%[length]format specifier)

- Print-grand total as (grandtotal).

12. END

BUILD:

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

```
int main()
```

```
{
```

```
    char name[50], address[100], date[100], time[100];
```

```
    int itemno[50], quantity[50], itemcount;
```

```
    char itemname[50][50];
```

```
    float price[50], total[50];
```

```
    float grandtotal = 0.0;
```

```
// // Customer details
```

```
    printf("Enter customer name: ");
```

```
scanf("%s", name);

printf("Enter customer address : ");

scanf("%s", address);

printf("Enter date (dd/mm/yyyy): ");

scanf("%s", date);

printf("Enter time (hh:mm): ");

scanf("%s", time);

printf("Enter number of items: ");

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

```
// Items input
```

```
for (int i = 1; i <=itemcount; i++) {

    itemno[i]=i;

    printf("*****\n");

    printf(" item number: %d\n",itemno[i]);

    printf("Enter item name:");

    scanf("%s", itemname[i]);

    printf("Enter quantity: ");

    scanf("%d", &quantity[i]);
```

```
    printf("Enter price: ");  
  
    scanf("%f", &price[i]);  
  
    total[i] = quantity[i] * price[i];  
  
    grandtotal += total[i];  
  
}
```

```
// Print bill
```

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

```
printf("Customer Name: %s\n", name);
```

```
printf("Address    : %s\n", address);
```

```
printf("Date       : %s\n", date);
```

```
printf("Time       : %s\n", time);
```

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

```
printf("Item No | Item Name    | Qty | Price | Total\n");
```

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

```
for (int i = 0; i < itemcount; i++) {
```

```
    printf("%7d | %15s | %3d | %1.2f | %f\n",
```



```
        itemno[i+1],  
        itemname[i+1],  
        quantity[i+1],  
        price[i+1],  
        total[i+1]);  
    }
```

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

```
    printf("Grand Total: %.2f\n", grandtotal);
```

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

```
    return 0;
```

```
}
```

TESTING:

Output:

```
Enter customer name: VedaSwaroop
Enter customer address : abc
Enter date (dd/mm/yyyy): 3/10/2025
Enter time (hh:mm): 10:16
Enter number of items: 3
*****
  item number: 1
Enter item name:sandwich
Enter quantity: 3
Enter price: 10
*****
  item number: 2
Enter item name:icedcoffee
Enter quantity: 1
Enter price: 15
*****|
  item number: 3
Enter item name:croissant
Enter quantity: 2
Enter price: 12.5
```

Final BILL:

```

=====BILL=====
Customer Name: VedaSwaroop
Address      : abc
Date        : 3/10/2025
Time        : 10:16
-----
Item No | Item Name      | Qty | Price | Total
-----
      1 | sandwich      |  3 | 10.00 | 30.000000
      2 | icedcoffee   |  1 | 15.00 | 15.000000
      3 | croissant     |  2 | 12.50 | 25.000000
-----
Grand Total: 70.00
=====

```

IMPLEMENTATION:

<https://www.programiz.com/c-programming/online-compiler/>

