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A menu-driven C program for a mart billing system handles customer invoices, including the process of generating invoices, saving them to a binary file, and retrieving them based on customer names.

Functionalities:

1. A menu screen displaying the operations.
2. Generating new invoices.
3. View all the invoices.
4. View the invoice of a particular customer based on the customer's name.
5. Handling Invalid Inputs

Source Code:

```
#include<stdio.h>
#include<time.h>
#include<string.h>
#include<stdlib.h>

struct items {
   char item[20];
   float price;
   int qty;
};

struct orders {
   char customer[50];
   char date[50];
```

```
    int numOfItems;
    struct items itm[50];
};

// Functions to generate bills
void generateBillHeader(char name[50], char date[30]) {
    printf("\n\n");
    printf("\t    FRIENDS MART");
    printf("\n\t   ----------------------------------");
    printf("\nDate: %s", date);
    printf("\nInvoice To: %s", name);
    printf("\n");
    printf("--------------------------------------------------------------------------------\n");
    printf("Items\t\t\t\t");
    printf("Qty\t\t\t");
    printf("Total\t\t\t");
    printf("\n--------------------------------------------------------------------------------");
    printf("\n\n");
}

void generateBillBody(char item[20], int qty, float price) {
    printf("%s\t\t\t\t", item);
    printf("%d\t\t\t", qty);
    printf("%.2f\t\t\t", qty * price);
    printf("\n");
}

void generateBillFooter(float total) {
    printf("\n");
            float dis = 0.1 * total;
    float netTotal = total - dis;
    float cgst = 0.09 * netTotal, grandTotal = netTotal + 2 * cgst; // netTotal + cgst + sgst
    printf("---------------------------------------\n");
    printf("Sub Total\t\t\t%.2f", total);
```

```
    printf("\nDiscount @10%%\t\t\t%.2f", dis);
    printf("\n\t\t\t\t-------");
    printf("\nNet Total\t\t\t%.2f", netTotal);
    printf("\nCGST @9%%\t\t\t%.2f", cgst);
    printf("\nSGST @9%%\t\t\t%.2f", cgst);
    printf("\n---------------------------------------");
    printf("\nGrand Total\t\t\t%.2f", grandTotal);
    printf("\n---------------------------------------\n");
}

int main() {
    int opt, n, i;
    struct orders ord;
    struct orders order;
    char saveBill = 'y', contFlag = 'y';
    char name[50];
    FILE *fp;
    // Dashboard
    while (contFlag == 'y') {
        system("cls");
        float total = 0;
        int invoiceFound = 0;
        printf("\t============FRIENDS MART============");
        printf("\n\nPlease select your preferred operation");
        printf("\n\n1.Generate Invoice");
        printf("\n2.Show all Invoices");
        printf("\n3.Search Invoice");
        printf("\n4.Exit");
        printf("\n\nYour choice:\t");
        fflush(stdin);
        scanf("%d", &opt);
        fgetc(stdin);
        switch (opt) {
            case 1:
```

```
        system("cls");
        printf("\nPlease enter the name of the customer:\t");
        fgets(ord.customer, 50, stdin); //getting name
        ord.customer[strlen(ord.customer) - 1] = '\0';
        time_t t=time(NULL);
        struct tm date=*localtime(&t);
        int yr=date.tm_year+1900;
        int mon=date.tm_mon+1;
        int d=date.tm_mday;
        char year[10];
        char month[10];
        char day[10];
        char fulldate[20];
        snprintf(year, sizeof(year), "%d", yr);
        snprintf(month, sizeof(month), "%d/", mon);
        snprintf(day, sizeof(day), "%d/", d);
        strcpy(fulldate,day);
        strcat(fulldate,month);
        strcat(fulldate,year);
        strcpy(ord.date, fulldate); //getting current date
        printf("\nPlease enter the number of items:\t");
        fflush(stdin);
        scanf("%d", &n);
        ord.numOfItems = n;
        for (i = 0; i < n; i++) {
//          fgetc(stdin);
          fflush(stdin);
                                        printf("\n\n");
          printf("Please enter the item %d name:\t", i + 1);
          fgets(ord.itm[i].item, 50, stdin);
          ord.itm[i].item[strlen(ord.itm[i].item) - 1] = '\0';
          printf("Please enter the quantity:\t");
          fflush(stdin);
                                        scanf("%d", &ord.itm[i].qty);
```

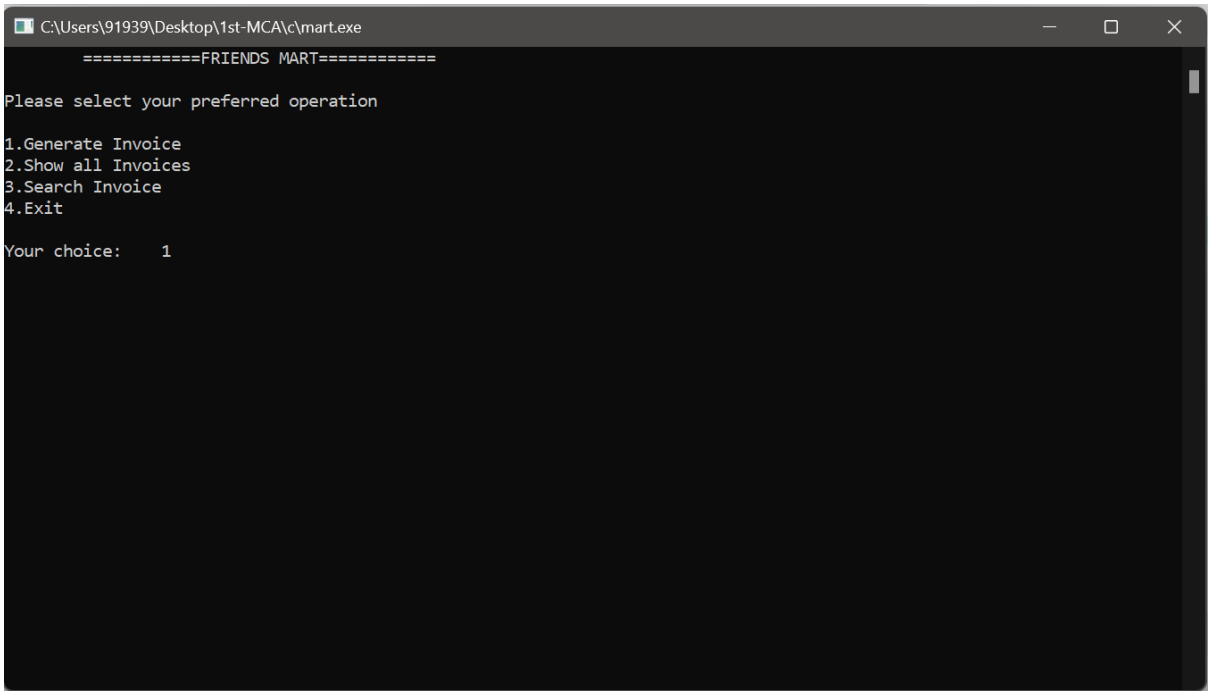
```
    printf("Please enter the unit price:\t");
    fflush(stdin);
                                        scanf("%f", &ord.itm[i].price);
    total += ord.itm[i].qty * ord.itm[i].price;
}

generateBillHeader(ord.customer, ord.date);
for (i = 0; i < ord.numOfItems; i++) {
    generateBillBody(ord.itm[i].item, ord.itm[i].qty, ord.itm[i].price);
}
generateBillFooter(total);

printf("\nDo you want to save the invoice [y/n]:\t");
fflush(stdin);
                                scanf("%s", &saveBill);
                                while(saveBill)
{
                                        if (saveBill == 'y' || saveBill=='Y') {
            fp = fopen("MartBill.bin", "ab");
            if(fp==NULL){
                printf("Error Accessing File:\n");
                break;
                                                }
                                                else{
                                                        int flag=0;
                flag=fwrite(&ord, sizeof(struct orders), 1, fp);
                if (flag)
                    printf("\nSuccessfully saved");
                else
                    printf("\nError saving");
                fclose(fp);
                break;
                }
        }
```

```
            else if(saveBill == 'n' || saveBill=='N'){
                    break;
                                        }
                                        else{
                                                printf("\nINVALID INPUT(please enter again)");
                                                printf("\nDo you want to save the invoice [y/n]:\t");
                     fflush(stdin);
                                                scanf("%s", &saveBill);
                                        }
  }


case 2:
    system("cls");
    fp = fopen("MartBill.bin", "rb");
    printf("\n  *****Your Previous Invoices*****\n");
    while (fread(&order, sizeof(struct orders), 1, fp)) {
        float tot = 0;
        generateBillHeader(order.customer, order.date);
        for (i = 0; i < order.numOfItems; i++) {
            generateBillBody(order.itm[i].item, order.itm[i].qty, order.itm[i].price);
            tot += order.itm[i].qty * order.itm[i].price;
        }
        generateBillFooter(tot);
    }
    fclose(fp);
    break;

case 3:
    printf("Enter the name of the customer:\t");
    fgets(name, 50, stdin);
    name[strlen(name) - 1] = 0;
    system("cls");
    fp = fopen("MartBill.bin", "rb");
```

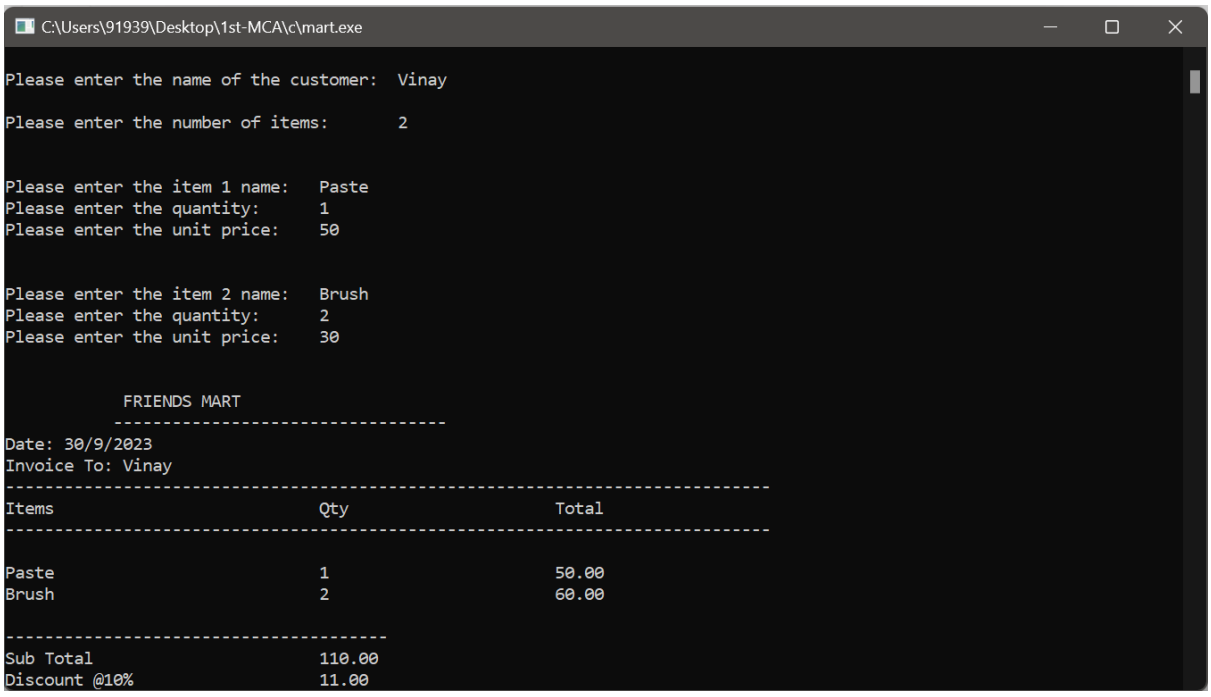
```
            printf("\t*****Invoice of %s*****", name);
            while (fread(&order, sizeof(struct orders), 1, fp)) {
               float tot = 0;
               if (!strcmp(order.customer, name)) {
                  generateBillHeader(order.customer, order.date);
                  for (i = 0; i < order.numOfItems; i++) {
                     generateBillBody(order.itm[i].item, order.itm[i].qty, order.itm[i].price);
                     tot += order.itm[i].qty * order.itm[i].price;
                  }
                  generateBillFooter(tot);
                  invoiceFound = 1;
               }
            }
            if (!invoiceFound) {
               printf("\n\nSorry, the invoice for %s does not exist", name);
            }
            fclose(fp);
            break;

         case 4:
            printf("\n\t\t Bye Bye :)\n\n");
            exit(0);
            break;

         default:
            printf("Sorry invalid option");
            break;
      }
      printf("\nDo you want to perform another operation?[y/n]:\t");
      fflush(stdin);
                     scanf("%s", &contFlag);
   }
   printf("\n\t\t Bye Bye :)\n\n");
```

```
    return 0;
}
```

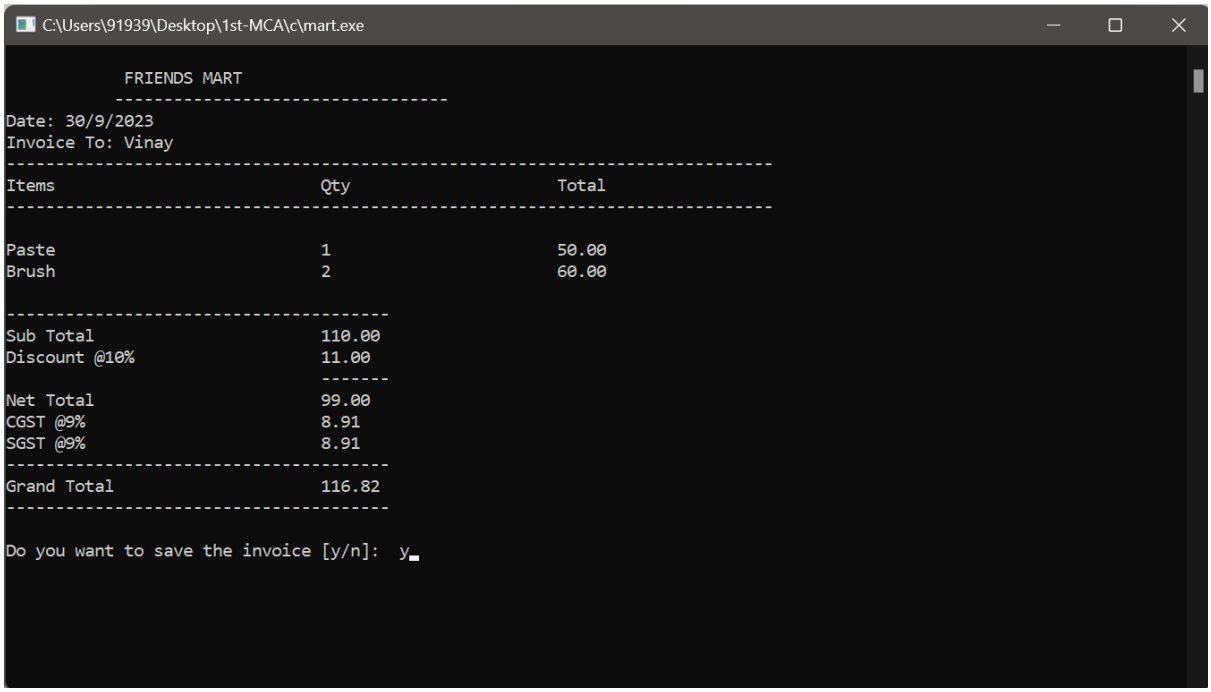
OUTPUTS:



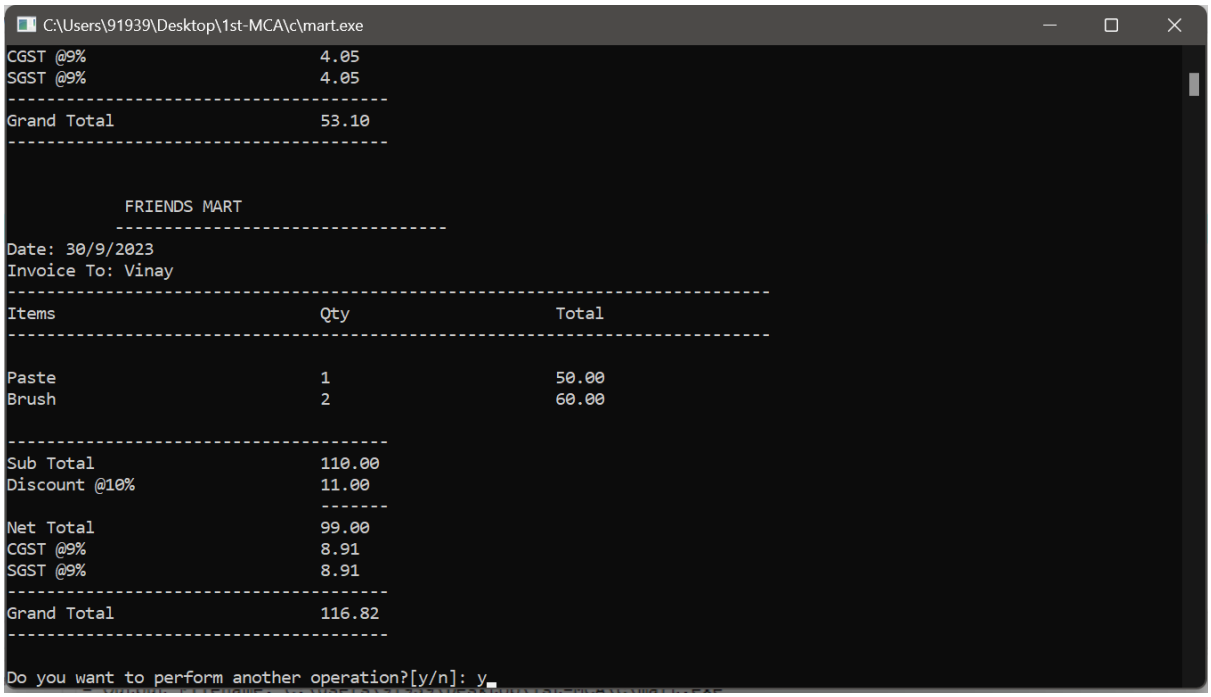
1. Menu Page



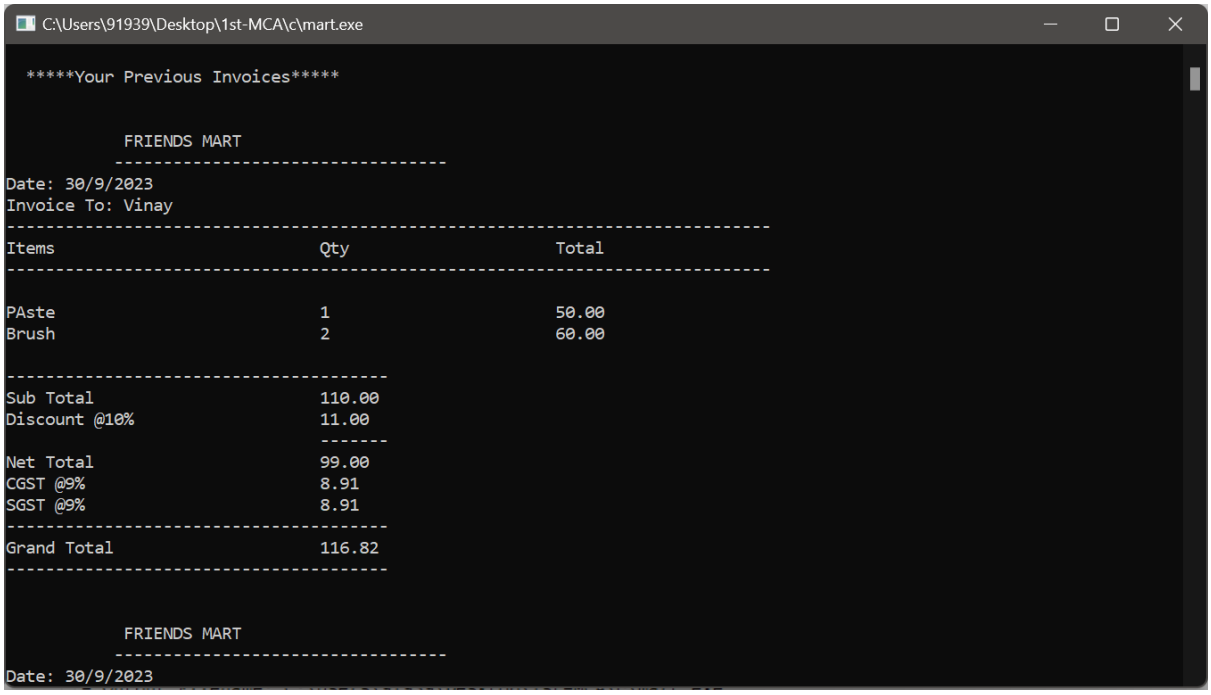
2. Invoice Generation Page

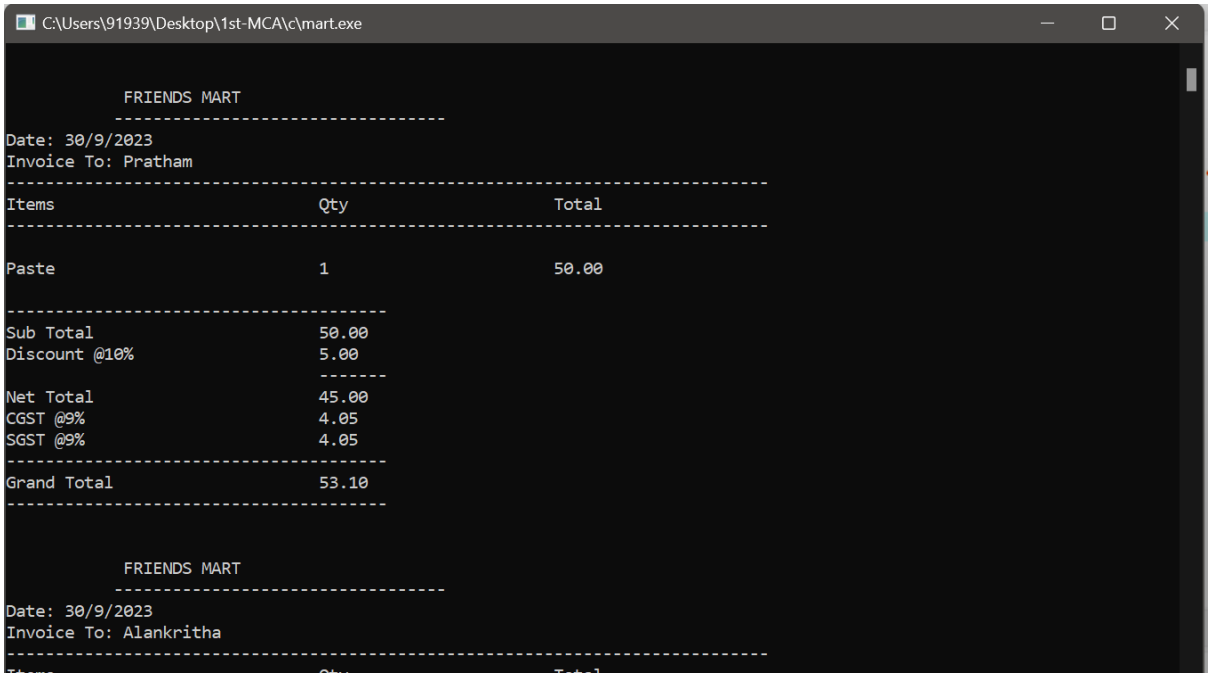


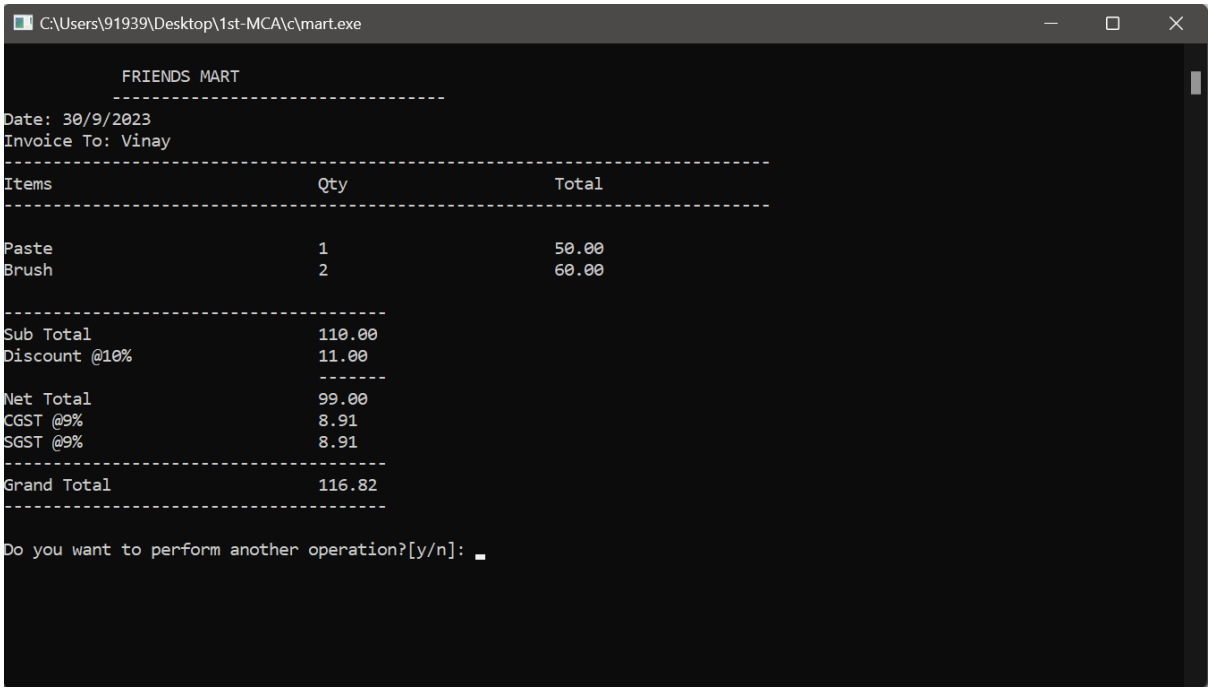
3. Invoice is generated and waiting for confirmation to save



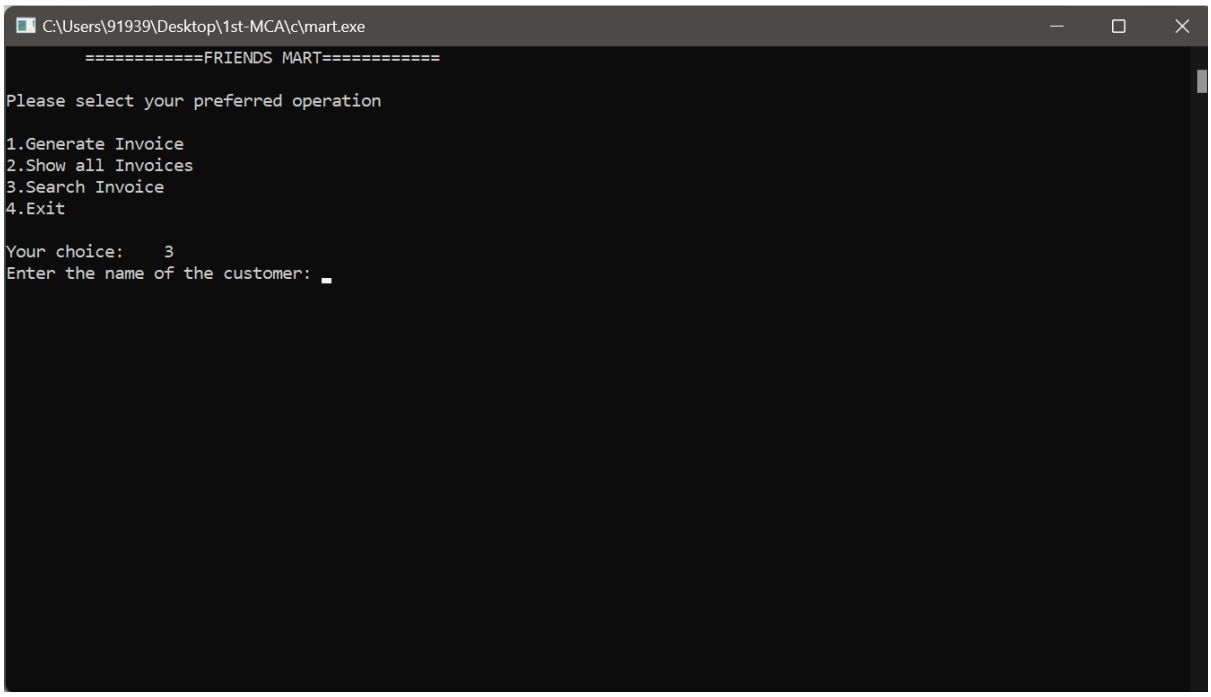
4. Invoice is saved and waiting for the response to perform any other operation


C:\Users\91939\Desktop\1st-MCA\c\mart.exe
*****Your Previous Invoices*****
FRIENDS MART
Date: 30/9/2023
Invoice To: Vinay
Items Qty Total
PAste 1 50.00
Brush 2 60.00
Sub Total 110.00
Discount @10% 11.00
Net Total 99.00
CGST @9% 8.91
SGST @9% 8.91
Grand Total 116.82
FRIENDS MART
Date: 30/9/2023

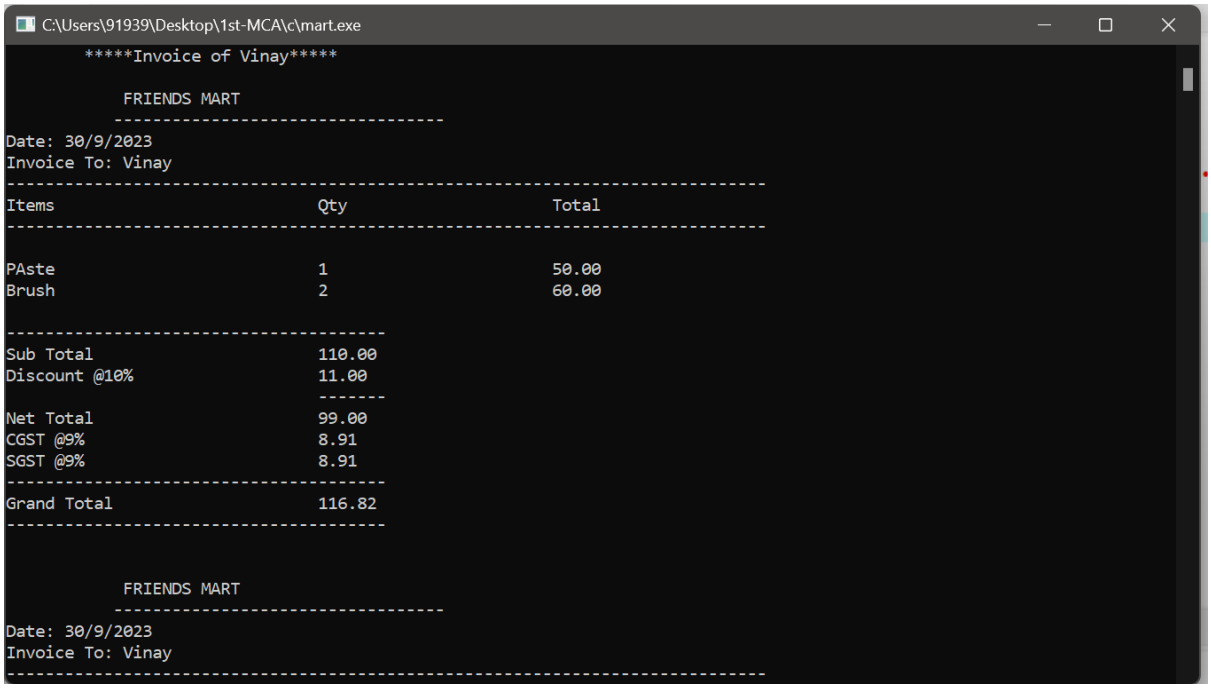

C:\Users\91939\Desktop\1st-MCA\c\mart.exe
FRIENDS MART
Date: 30/9/2023
Invoice To: Pratham
Items Qty Total
Paste 1 50.00
Sub Total 50.00
Discount @10% 5.00
Net Total 45.00
CGST @9% 4.05
SGST @9% 4.05
Grand Total 53.10
FRIENDS MART
Date: 30/9/2023
Invoice To: Alankritha

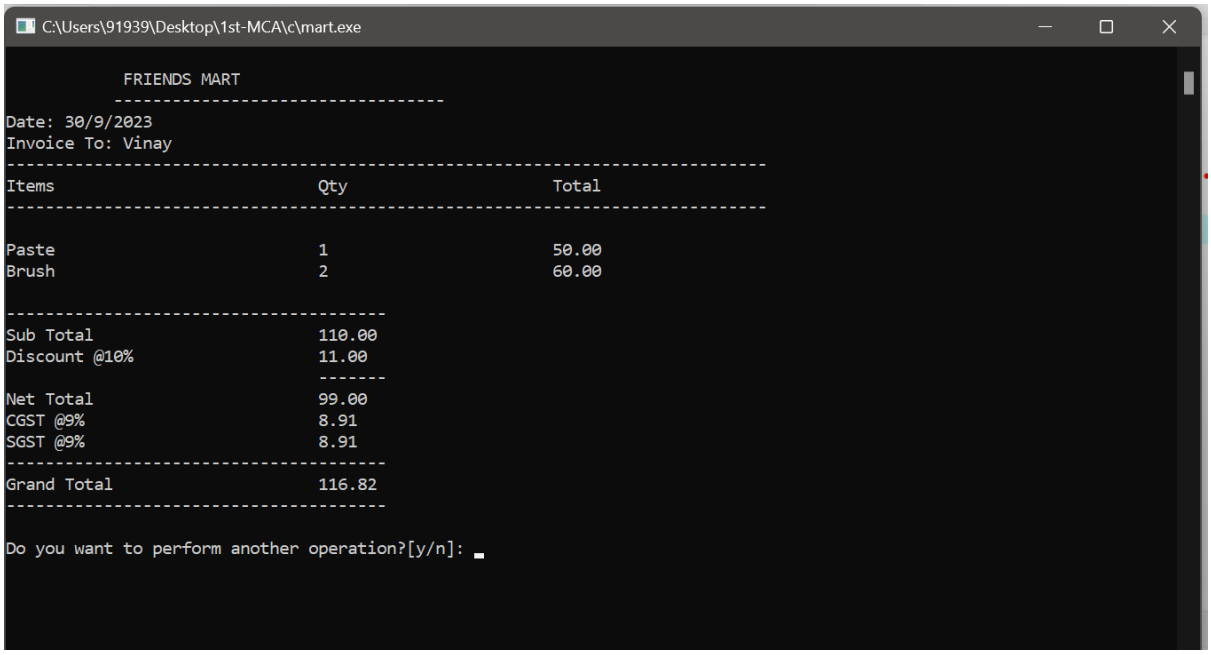


5. Viewing all invoices

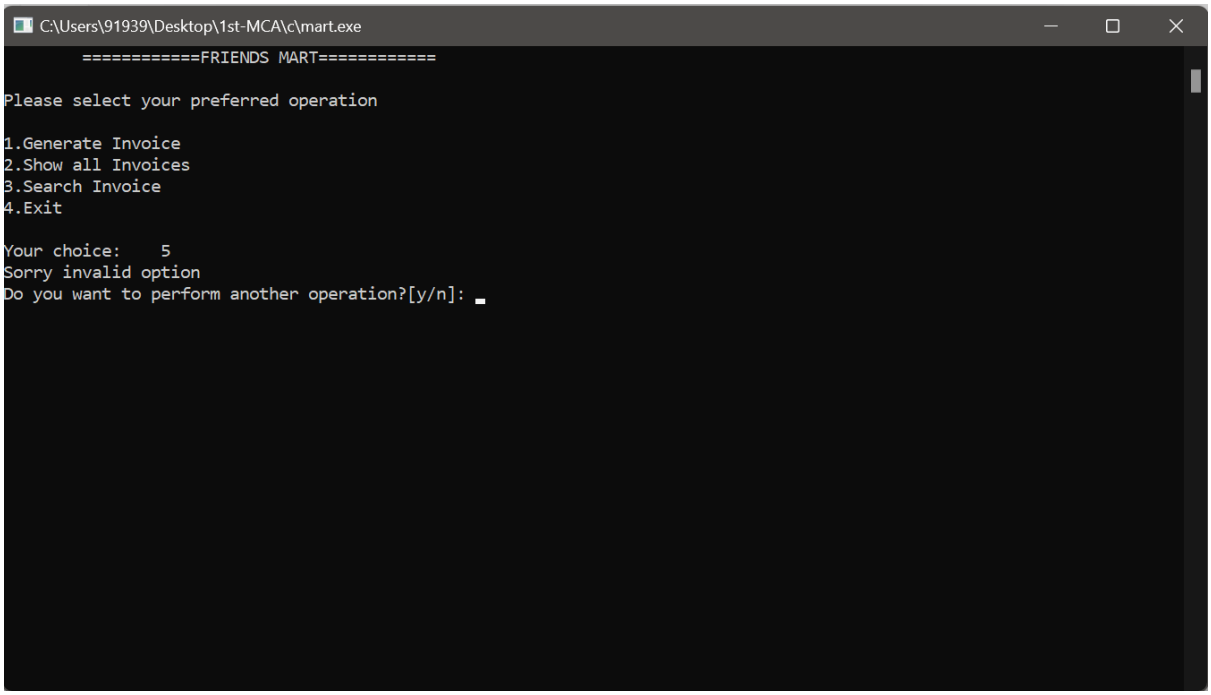


6. Searching invoices of customer

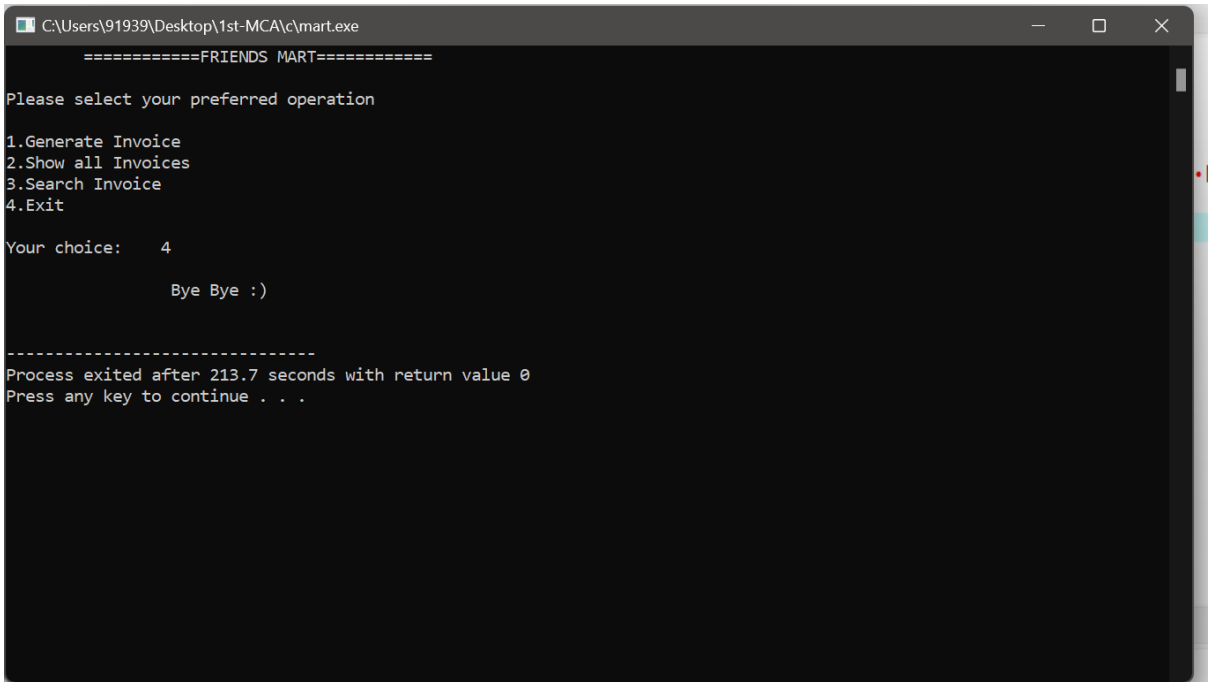




7. All invoices of the customer



8. Entering an invalid input



9. Exiting the program