MINI PROJECT FOR MANAGEMENT SYSTEM IN C LANGUAGE

PROGRAMMING

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OUR PROJECT HAS BEEN CATAGORISED INTO THREE PARTS:

- **LIBRARY MANAGEMENT SYSTEM**
- **ATM BANKING SYSTEM**
- **RESTAURANT BILLING SYSTEM**

AIM

- Library management is a project that maintains and stores book data electronically according to students' needs. The system supports both students and library administrators to keep a consistent track of all the books available in the library.
- ATM banking enables customers to access their accounts without visiting the bank. When a user requires to withdraw cash, they can enter their PIN number and the amount to be withdrawn.
- A Restaurant Billing software eases billing operations by automation and improves the overall customer experience.

LIBRARY MANAGEMENT SYSTEM

Algorithm

```
Step 1: Declare a structure which holds data members
Step 2: declare variables which are used for loop
Step 3: use switch case to work on each module
Step 4: case 1- for Adding book information
        Case 2- for Display book information
        Case 3- for Display book of given Author
        Case 4- for Finding number for books in library
        Case 5- for EXIT
```

PROCEDURE

- First we will declare the variables.
- Printf() and scanf() functions for displaying the content and taking input from the user.
- For entering the choice we use while loop.
- Then we use switch case for entering user choice
- Program uses structure to store books records.
- In case 3 strcmp function is used to match author's name.

module

```
void mainlibrary()
{
    struct library lib[100];

    char ar_nm[30], bk_nm[30];

    int i, input, count;

    i = input = count = 0;

    while (input != 5) {

        printf("\n\n**********"
               "WELCOME TO E-LIBRARY "
               "**********\n");
        printf("\n\n1. Add book infor"
               "mation\n2. Display "
               "book information\n");
        printf("3. List all books of "
               "given author\n");
        printf(
            "4. List the count of book"
            "s in the library\n");
        printf("5. Exit");

        printf("\n\nEnter one of "
               "the above: ");
        scanf("%d", &input);

        switch (input) {

        case 1:

            printf("Enter Book Name = ");
            scanf("%s", lib[i].book_name);
```

```
printf("Enter Author Name = ");
        scanf("%s", lib[i].author);

        printf("Enter Pages = ");
        scanf("%d", &lib[i].pages);

        printf("Enter Price = ");
        scanf("%f", &lib[i].price);
        count++;

        break;

        case 2:
        printf("You have entered"
              " the following "
              "information\n");
```

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

                printf("book name = %s",
                      lib[i].book_name);

                printf("\t author name =
%s",
                      lib[i].author);

                printf("\t  pages = %d",
                      lib[i].pages);

                printf("\t  price = %f",
                      lib[i].price);
            }
            break;
        case 3:
            printf("Enter Author Name :
");
```

```
if (strcmp(ar_nm,
                    lib[i].author)== 0)
            {
              printf("book name = %s",
                lib[i].book_name);

            printf("\t author name = %s",
                  lib[i].author);

            printf("\t  pages = %d",
                  lib[i].pages);

            printf("\t  price = %f",
                  lib[i].price);
          }

          }
          break;
```

```
        case 4:
            printf("\n No of books in "
                  "library : %d",
                  count);
            break;
        case 5:
          printf("\nTHANKYOU FOR
USING E-LIBRARY:)");
        }
    }

}
```

ATM BANKING

ALGORITHM

Step 1: Declare variables and initialize with values.
Step 2: if the entered pin matches , use switch case to get following values
Step 3: case 1- for Withdrawal of money
Case 2- for Depositing the money
Case 3- to find the Balance money
Default- to EXIT

PROCEDURE

- First we will declare the variables.
- Printf() function is used for displaying the current time in the console
- For entering the pin and to continue transaction, we use while loop.
- Then we use switch case for entering user choice
- The transaction can be carried out as many times by pressing ‘y’ and if not needed press ‘n’ and exit the loop.

module

```
void mainbankingsystem()
{ int pin=1234 , option ,
enteredPin , count=0 , amount=1;
float  balance=5000;
 int  continueTransaction=1;
 time_t  now;
 time(&now);
 printf("\n");
printf  ("\t\t\t\t\t %s",ctime(&now));
printf("\n\t\t\t
====================Welcome
to
ATM====================");
```

```
while(pin != enteredPin){
printf("\nPlease enter your pin : ");
 scanf("%d",&enteredPin);
if(enteredPin !=pin){
Beep(610,320);
 printf("Invalid pin!!!"); }
 count++;
 if(count==3 && enteredPin!=pin){
return 0;
}} while(continueTransaction !=0)
{printf("\n\t\t\t=================
====*Available
Transactions=================");
```

```
printf("\n\n\t\t1.Withdrawal");
printf("\n\t\t2.Deposit");
printf("\n\t\t3.Check Balance");
printf("\n\n\tPlease select an option : ");
scanf("%d",&option);
switch(option){
case 1:  while(amount % 500 !=0){
printf("\n\t\tEnter the amount :");
scanf("%d",&amount);
if(amount % 500 !=0)
printf("\n\tThe amount must be multiples of  500"); }
```

```
if(balance < amount){
printf("\n\t Sorry insufficient balance");
amount=1;
break; }
else{
balance -=amount;
printf("\n\t\tYou have withdrawn Rs.%d your new balance is Rs.%f",amount,balance);
amount=1;
break; }
```

```
case 2;
printf("\n\t\t Please enter the amount : ");
scanf("%d",&amount);
balance+=amount;
printf("\n\t\t You have deposited Rs.%d
your new balance is Rs.%f",amount,balance);
amount=1;
break;
case 3:
printf("\n\t\t Your balance is
Rs.%f",balance);
break;
```

```
default:
Beep(610,320);
printf("\n\t\t Invalid option!!");}
printf("\n\n\t\t Do you wish to perform
another Transaction? press 1[yes],0[no]");
scanf("%d",&continueTransaction);
}
printf("\n\t\t Thank you for banking\n");
}
```

RESTAURANT MANAGEMENT SYSTEM

ALGORITHM

Step 1: Declare variables and their values
Step 2: We used void printmeals and void ordermeals to print the menu and order.
Step 3: We used while loop for the following values
1) Please enter your option
2) Please enter your amount of order
3) would you like to enter more orders.

PROCEDURE

- First we will declare the variables.
- Printf() and scanf() functions are used to display the menu and also take input from the user
- We used while loop for entering the choice
- We have entered the required calculations for the total bill and discounts respectively.
- After the final billing we can press y or n to continue or exit the loop respectively.

module

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

double price[7] = { 250 , 300 , 20 , 120 , 150 , 160 , 50 };
double mealTaxPrices[7];
int adultNumber,childNumber;

void printMeals();
void orderMeals();
double orderForAdult();
double orderForChildren();
int main()
{
   char response = 'y';
printMeals();
    while(response == 'y' || response == 'Y')
   {
         printf("please enter number of adults  :");
         scanf("%d",&adultNumber);
         printf("please enter number of children:");
         scanf("%d",&childNumber);

         orderMeals();
```

```
 printf("\nwould you like to continue(y/n):");
         scanf("\n%c",&response);
   }
 printf("\n      ********** THANK YOU FOR COMING
**********\n");
 printf("\20********** PLEASE VISIT US NEXT TIME
**********\20 \n");
system("pause");
  return 0;
}
void printMeals()
{
 printf("\20********** WELCOME TO ABC RESTURANT
**********\20\n");
     printf(" \t\t\t Below is the menue:\20\n");
     printf(" \t\t\t MEALS\t\t\tPRICE:\n");
     printf(" \t\t\t \22**********\22\n");
     printf(" \t\t\t 1- Veg Biryani\t\t250/-\n");
     printf(" \t\t\t 2- Special Meal\t300/-\n");
     printf(" \t\t\t 3- Roti\t\t20/-\n");
     printf(" \t\t\t 4- Dal\t\t\t120/-\n");
     printf(" \t\t\t 5- Paneer Tikka\t150/-\n");
     printf(" \t\t\t 6- Veg mix\t\t160/-\n");
     printf(" \t\t\t 7- Icecream\t\t50/-\n")
printf("\n");
```

```
}
void orderMeals()
{
        double totalPriceForAdult, totalPriceForChildren;
        double allPayment,discount;
      printf("                \t\t**** ORDER MENUE****\n");

     totalPriceForAdult =  orderForAdult();
     totalPriceForChildren = orderForChildren();
     allPayment = totalPriceForAdult + totalPriceForChildren ;
   printf("\n \t\t    \22**************************************\22   \n");
   printf(" \t\t  ****************** final BILL  ************     \n");
   printf(" \t\t\tadult/child\tcount\t\ttotal price\n");
   printf(" \t\t\tadults\t\t%d\t\t%5.2f\n",adultNumber,totalPriceForAdult);
   printf(" \t\t\tchildren\t%d\t\t%5.2f\n",childNumber,totalPriceForChildren);
   printf(" \t\t\tTotal bill\t\t\t%5.2f\n",allPayment );

    if(allPayment < 100)
              discount=((allPayment * 0.5)/100);
   else if(allPayment>= 100 && allPayment<200)
      discount=((allPayment * 1)/100);
   else if(allPayment>= 200 && allPayment<300)
      discount=((allPayment * 1.5)/100);
   else if(allPayment>= 300 && allPayment<400)
```

```
        discount=((allPayment * 2.0)/100);
         else
                discount= ((allPayment * 4.0)/100);
printf(" \t\t\tTotal bill after discount\t%5.2f\n",allPayment-discount);}
double orderForAdult()
{
   int menuOption,i,amount;
    char response = 'y';
    double totalPerPerson = 0.0,totalAllPerson = 0.0;
    double tax = 5.0;
    if(adultNumber <=0)
              printf("\n ");
       else
    printf("*\tadults:\n");
    for(i=0;i<adultNumber;i++)
   {
        printf("adult %d please enter your orders\n",i+1);
        while(response == 'y' || response == 'Y')
        {
              printf("please enter your option:");
              scanf("%d",&menuOption);
            if(menuOption<1 || menuOption>7)
            {
             printf("sorry we don`t have this order \nagain")
```

```
 continue;
                        printf("please enter your amount of order:");
                        scanf("%d",&amount);
                        totalPerPerson = totalPerPerson + (amount *
price[menuOption ]);
                        printf("\nWould you like to enter more orders(y/n):");
                        scanf("\n%c",&response);}
            printf("\n");
            totalAllPerson += totalAllPerson +  totalPerPerson;
            totalPerPerson = 0.0;
            response = 'y';
    }
 return totalAllPerson + ((totalAllPerson * tax) / 100);
}
double orderForChildren()
{
      int menuOption,i,amount;
     char response = 'y';
     double totalPerChild = 0.0,totalAllChildren = 0.0;
     double tax = 5.0,oneOrder;
      if(childNumber <=0)
                  printf("\n");
           else
      printf("*\tChildren:\n");
      for(i=0;i<childNumber;i++)
```

```
    {
          printf("child %d please enter your orders\n",i+1);
          while(response == 'y' || response == 'Y')
          {
                    printf("please enter your option:");
                    scanf("%d",&menuOption);
                if(menuOption<1 || menuOption>7){
                 printf("sorry we don`t have this order \nagain! ");
                      continue;
                printf("please enter your amount of order:");
                    scanf("%d",&amount);
oneOrder = (price[menuOption - 1] * 60)/100 ;
    //this one order for a child with discount   %60 of one order of adult
                    totalPerChild = totalPerChild + (amount * oneOrder)  ;
              printf("Would you like to enter more orders(y/n):");
                    scanf("\n%c",&response);
 }
          totalAllChildren += totalAllChildren +  totalPerChild;
          response = 'y';
          totalPerChild = 0.0;
printf("\n");}

    return totalAllChildren + ((totalAllChildren * tax) / 100);
}
```

Advantages

- The data should be stored in computer rather than in register manually.
- Better planning and build an application program to reduce the manual work for managing the tasks.
- It has faster access to the stored data.
- Userfriendly.
- Time saving.

Link for whole code:

https://github.com/Shriyaa04/MINI-PROJECT/blob/main/main.c

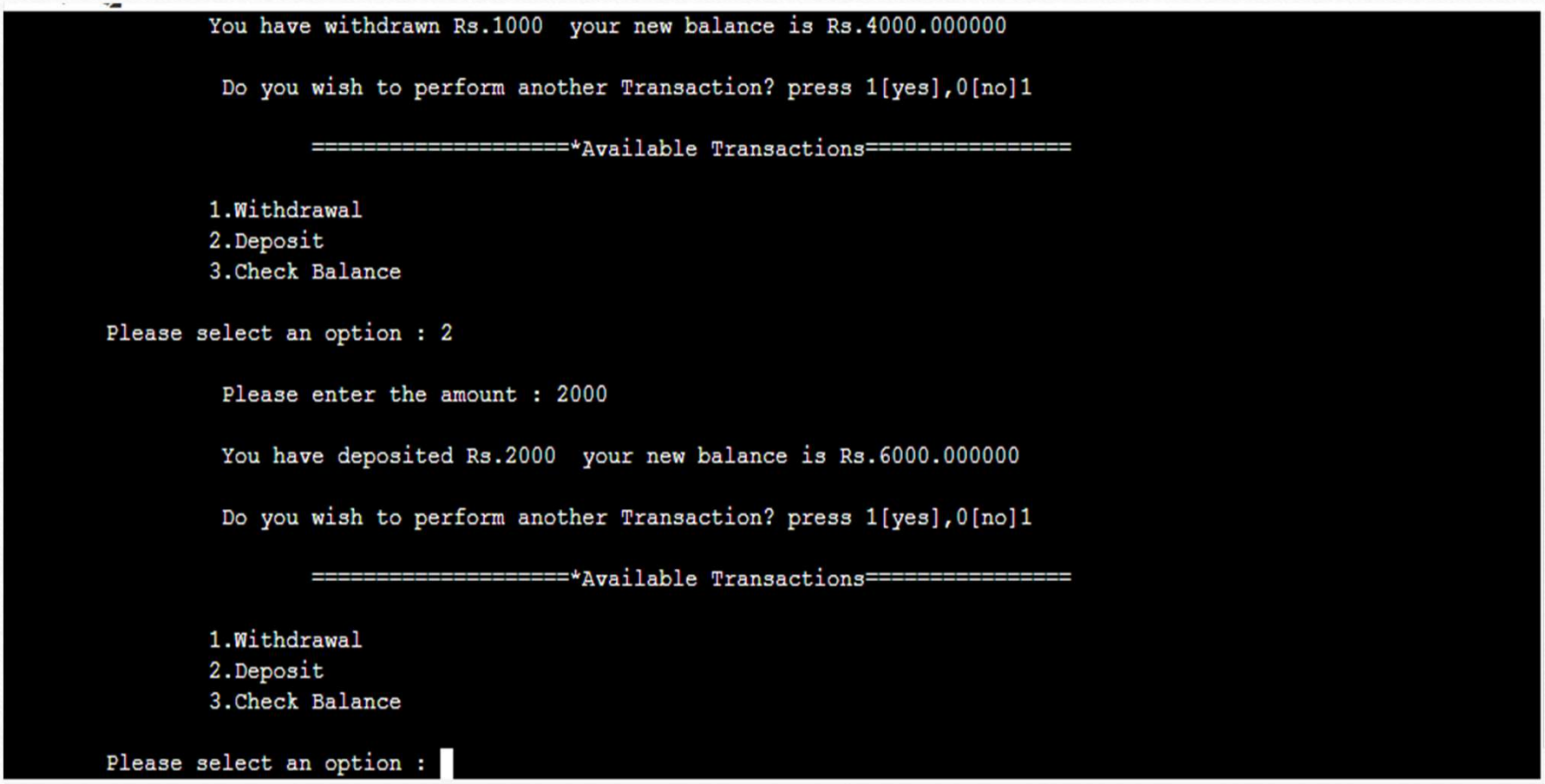
Output

```
Hello! WELCOME TO OUR MINI PROJECT
PRESS 1 FOR LIBRARY MANAGEMENT SYSTEM
PRESS 2 FOR ATM BANKING
PRESS 3 FOR RESTURANT BILLING
1


**********WELCOME TO E-LIBRARY **********


1. Add book information
2. Display book information
3. List all books of given author
4. List the count of books in the library
5. Exit

Enter one of the above: 1
Enter Book Name = Harrypotter
Enter Author Name = J.k
Enter Pages = 345
Enter Price = 1024.5
```

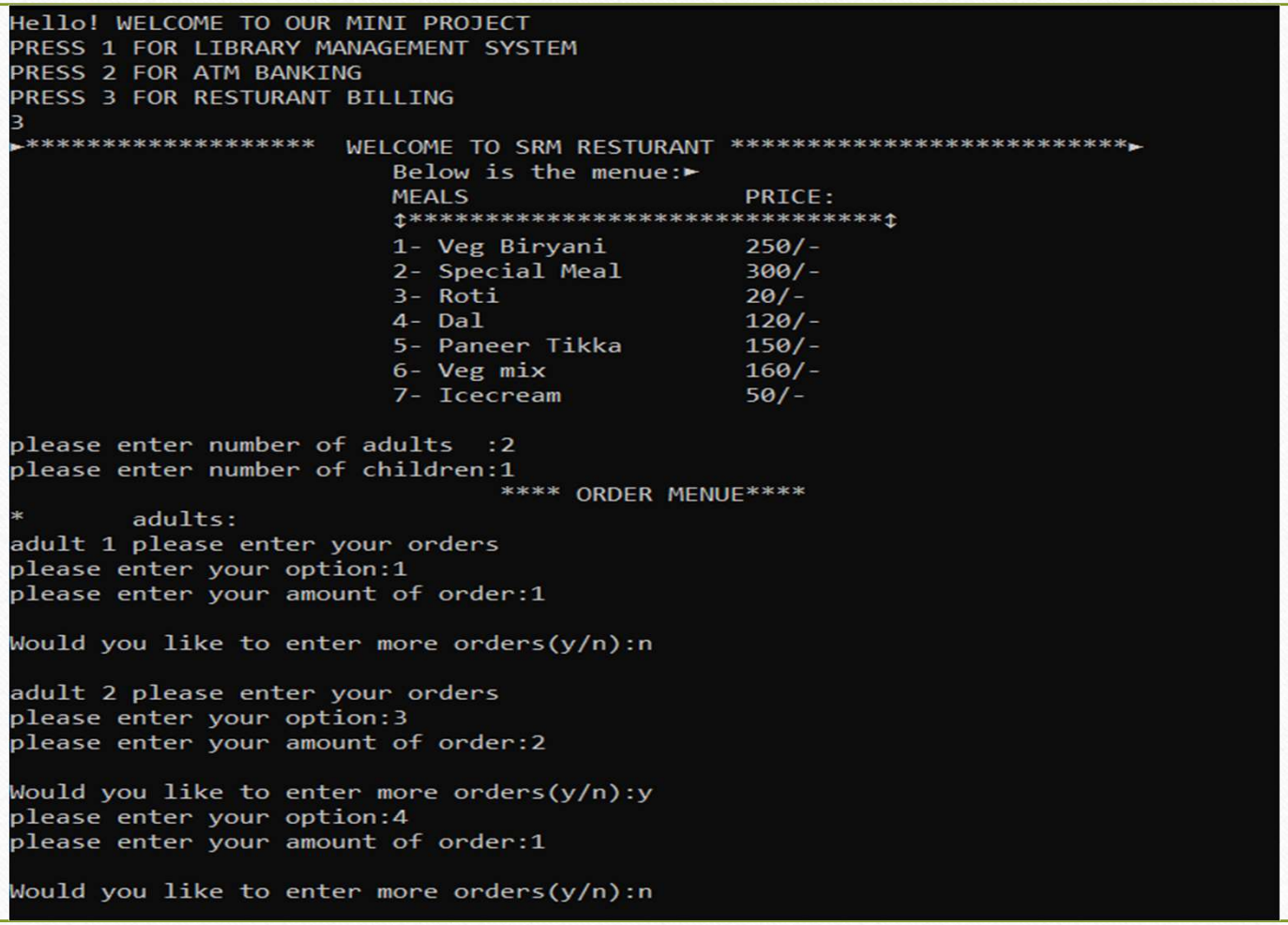
```
************WELCOME TO E-LIBRARY ************


1. Add book information
2. Display book information
3. List all books of given author
4. List the count of books in the library
5. Exit

Enter one of the above: 2
You have entered the following information
book name = Harrypotter  author name = J.k        pages = 345     price = 1024.500000

************WELCOME TO E-LIBRARY ************


1. Add book information
2. Display book information
3. List all books of given author
4. List the count of books in the library
5. Exit

Enter one of the above: 3
Enter Author Name : J.k
book name = Harrypotter  author name = J.k        pages = 345     price = 1024.500000
```

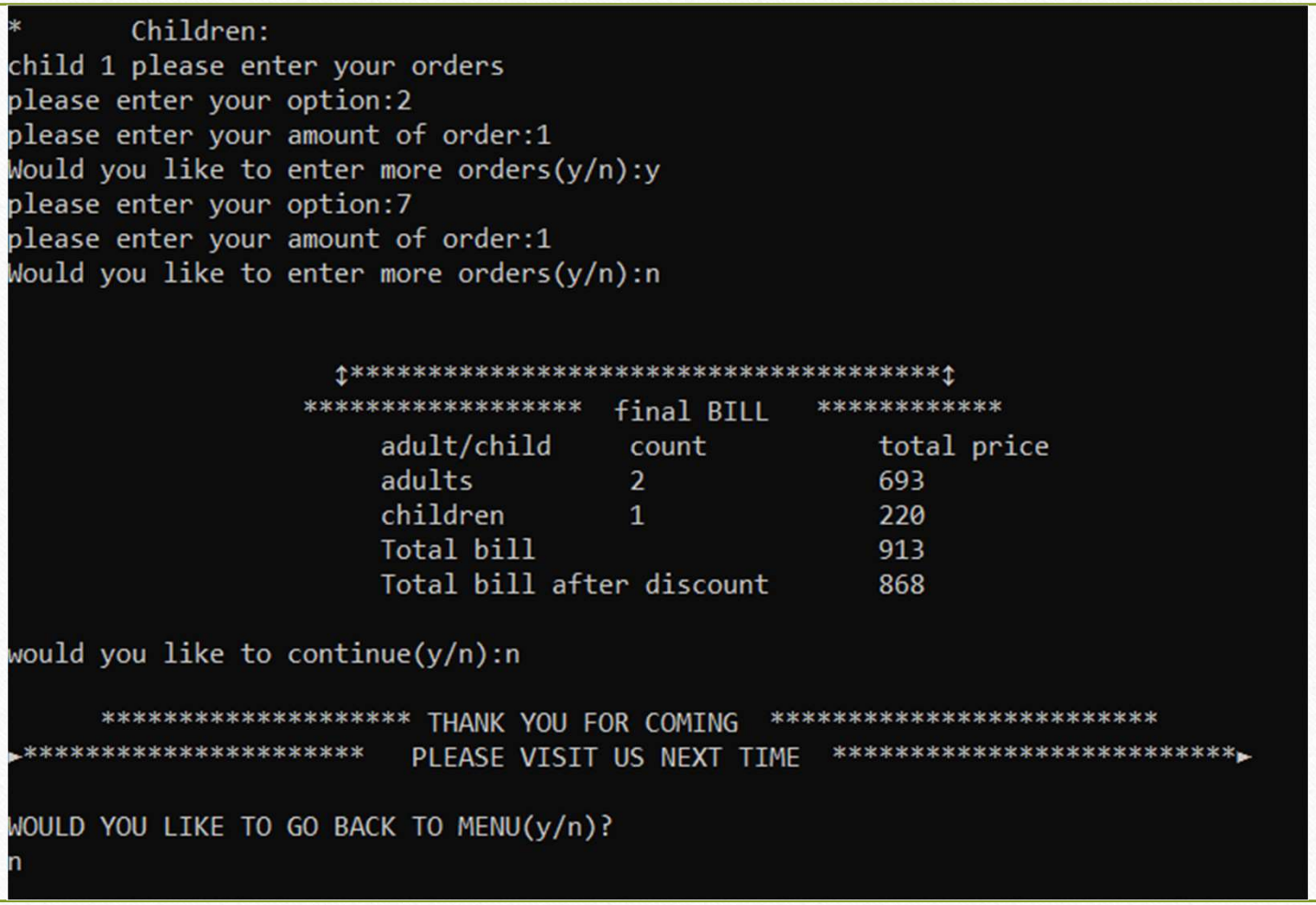
```
**********WELCOME TO E-LIBRARY **********


1. Add book information
2. Display book information
3. List all books of given author
4. List the count of books in the library
5. Exit

Enter one of the above: 4

 No of books in library : 1

**********WELCOME TO E-LIBRARY **********


1. Add book information
2. Display book information
3. List all books of given author
4. List the count of books in the library
5. Exit

Enter one of the above: 5

THANKYOU FOR USING E-LIBRARY:)
WOULD YOU LIKE TO GO BACK TO MENU(y/n)?
y
PRESS 1 FOR LIBRARY MANAGEMENT SYSTEM
PRESS 2 FOR ATM BANKING
```

```
THANKYOU FOR USING E-LIBRARY:)
WOULD YOU LIKE TO GO BACK TO MENU(y/n)?
y
PRESS 1 FOR LIBRARY MANAGEMENT SYSTEM
PRESS 2 FOR ATM BANKING
PRESS 3 FOR RESTURANT BILLING
2

                                    Sun Jan 23 16:59:27 2022

                    ======================Welcome to ATM=======================
Please enter your pin : 1234

                    ====================*Available Transactions================

              1.Withdrawal
              2.Deposit
              3.Check Balance

       Please select an option : 1

              Enter the amount :1000

              You have withdrawn Rs.1000  your new balance is Rs.4000.000000

               Do you wish to perform another Transaction? press 1[yes],0[no]
```


You have withdrawn Rs.1000 your new balance is Rs.4000.000000
Do you wish to perform another Transaction? press 1[yes],0[no]1
==========*Available Transactions==========
1.Withdrawal
2.Deposit
3.Check Balance
Please select an option : 2
Please enter the amount : 2000
You have deposited Rs.2000 your new balance is Rs.6000.000000
Do you wish to perform another Transaction? press 1[yes],0[no]1
==========*Available Transactions==========
1.Withdrawal
2.Deposit
3.Check Balance
Please select an option :

```
        2.Deposit
        3.Check Balance

Please select an option : 3

         Your balance is Rs.6000.000000

         Do you wish to perform another Transaction? press 1[yes],0[no]1

               ====================*Available Transactions================

        1.Withdrawal
        2.Deposit
        3.Check Balance

Please select an option : 4

         Invalid option!!

         Do you wish to perform another Transaction? press 1[yes],0[no]0

               Thank you for banking
```


Hello! WELCOME TO OUR MINI PROJECT
PRESS 1 FOR LIBRARY MANAGEMENT SYSTEM
PRESS 2 FOR ATM BANKING
PRESS 3 FOR RESTURANT BILLING
3
►********** WELCOME TO SRM RESTURANT **********►
Below is the menue:►
MEALS PRICE:
↕**********↕
1- Veg Biryani 250/-
2- Special Meal 300/-
3- Roti 20/-
4- Dal 120/-
5- Paneer Tikka 150/-
6- Veg mix 160/-
7- Icecream 50/-
please enter number of adults :2
please enter number of children:1
**** ORDER MENUE****
* adults:
adult 1 please enter your orders
please enter your option:1
please enter your amount of order:1
Would you like to enter more orders(y/n):n
adult 2 please enter your orders
please enter your option:3
please enter your amount of order:2
Would you like to enter more orders(y/n):y
please enter your option:4
please enter your amount of order:1
Would you like to enter more orders(y/n):n


*   Children:
child 1 please enter your orders
please enter your option:2
please enter your amount of order:1
Would you like to enter more orders(y/n):y
please enter your option:7
please enter your amount of order:1
Would you like to enter more orders(y/n):n
final BILL
adult/child count total price
adults 2 693
children 1 220
Total bill 913
Total bill after discount 868
would you like to continue(y/n):n
THANK YOU FOR COMING
PLEASE VISIT US NEXT TIME
WOULD YOU LIKE TO GO BACK TO MENU(y/n)?
n

Thank You!