



North South University

Department of Electrical and Computer Engineering

Lab Project Report

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Project Topic : Bank Management System

GitHub Repo Link : https://github.com/md-abirhossain/cse_115L_project_b3

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Introduction of The Bank Management System!

We have created a bank management system using C . The main operations are stated below =>

- Create Bank Account
- Show existing account by entering admins password (we have used manager as a reference to admin)
- Update Existing Account (Password protected)
- Deposit Money (Password protected)
- Withdraw Money (Password protected)
- Show Statement (Password protected)
- Delete Account (Password protected)
- Exit Program

Create Bank Account :

This operation will allow the user to create a bank account to our system by entering his/her credentials . In this operation we will verify every information that the user will enter whether it's in the right format.

Show existing account :

This operation is only for the admin(manager). Because only the manager should have the access to view all of the existing accounts. The admin(manager) has to enter the password (B3). Otherwise the system will not allow the admin to check all the accounts.

Update existing account :

This operation will allow the user to update their existing credentials by entering their account number and password.

Deposit Money :

This operation will allow the user to deposit money to his/her account by entering the account number and password.

Withdraw Money :

This operation will allow the user to withdraw money from his/her account by entering the account number and password.

Show Statement :

This operation will allow the user to check their transaction history by entering their account number and password.

Delete Account :

This operation will allow the user to delete his/her account . This system will prompt the user to confirm whether he/she really wants to delete the account.

Exit program :

This operation will exit the program.

Short description of our own library files :

We have created two custom library files of our own . The first one is file_names.h which contains the File names . We have used #define to store file names.The second one is checkos.h . Since our Bank management system will work on every system(Windows,Linux,MacOS etc).

In the checkos.h library file firstly we are detecting the os. As windows have two different architectures (32/64) bit we have included windows.h file for Sleep() function then clear_scr() for clearing the previous outputs from the console. Now to make the sleep universal we have created our own function wait() which will take one parameter as time to be delayed.On the clear_scr() function we have coded differently for different os. Like for windows we only used the system("cls") to clear out. But for linux we have used fflush(stdout) to first clear out the buffer. Then we used system("clear") to clear out the console. Lastly we have used #define os to store a value as a reference to the operating system. For windows we have set it to 1 and for linux we have set it **to 0**.

To create bank management system we have created the following functions

welcome_message()

This function will show the welcome message when it's called.

line_start()

This function will print a design like this

```
"====="
```

show_msg(parameter_1,parameneter_2)

This function will take two parameters .The first parameter is the one which will be shown as a message and its data type is 'char'. The second parameter is used to pass the delay (time) to the function. This will print the characters one by one with a certain delay.

new_line(parameter_1)

This function will take only one parameter which is integer type. The integer value will create that amount of new line on the console screen. This function will help us to handle the new line operations smartly.

isName(parameter_1,parameter_2)

This function will take two parameters . The first one is the name that we want to verify (if the name is valid). Its data type is 'char'. The second one is the length of the name which is integer. The function will return true if the name contains only letters and dot. Else it will return false

isEmail(parameter_1,parameter_2)

This function will take two parameters . The first one is the email that we want to verify (if the email is valid). Its data type is 'char'. The second one is the length of the name which is integer. The function will return true if the email contains(@ and . [Since email address must have this]). Else it will return false

isPwd(parameter_1,parameter_2)

This function will take two parameters . The first one is the password that we want to verify (if the password is valid). Its data type is 'char'. The second one is the length of the password which is integer. The function will return true if the password contains 8 characters and also it should consist of at least one upper case , lower case , special character and one digit. Else it will return false

isPhn(parameter_1,parameter_2)

This function will take two parameters . The first one is the phone number that we want to verify (if the phone number is valid). Its data type is 'char'. The second one is the length of the phone number which is integer. The function will return true if the phone number contains 11 characters/digits. Else it will return false.

email_exs(parameter_1)

This function will take only one parameter. The parameter is email address. In this function we will check whether the user typed email address is already linked up with an existing bank account. If so then it will return false . Else it will return true.

generate_acc(parameter_1)

This function will take only one parameter. The parameter is the address of the account number variable. Now firstly we will check whether The File 'Record.txt' exists or not. If not it will save 223 on the address of the info.account_no variable else it will take the last account number and increment that by one and then save the result to the address of the info.account_no variable.

create_account()

This function will create a bank account by taking name, email, password, phone number, address form the user. This function will verify each one of them whether they are on the accurate form or not.

show_accounts()

This function will show all the existing account information from the 'Record.txt' file by verifying the manager's password which is 'B3' (our group name). If the password doesn't match with the given password then the function will exit and show the user to go to the main menu.

update_account()

This function will allow the bank account holder to update his/her Name, Email, Password, Phone. On the email update section the system will verify whether the newly typed email address already exists in the file. IF so it will prompt the user to enter a new email address.

withdraw_money()

This function will allow the user to withdraw money by entering his/her account number and password. If the combination doesn't match from the file then it will ask the user again to input information . This will continue till 3 times. If the user entered the wrong combination 3 times in a row then will display a message that you have tried the maximum amount of time.

deposit_money()

This function will allow the user to deposit money by entering his/her account number and password. If the combination doesn't match from the file then it will ask the user again to input information . This will continue till 3 times. If the user entered the wrong combination 3 times in a row then will display a message that you have tried the maximum amount of time.

show_statement()

This function will allow the user to view their previous transaction history by entering his/her account number and password. If the combination doesn't match from the file then it will ask the user again to input information . This will continue till 3 times. If the user

entered the wrong combination 3 times in a row then will display a message that you have tried the maximum amount of time.

delete_account()

This function will allow the user to delete his/her bank account. Since it's a process to delete an account we will ask the user if he/she really wants to delete the account. If the user agrees to delete the account then we will delete his/her account else the process will be terminated.

menu()

This function will show the menu option to the user. Reason behind putting it inside a function is that we will show the menu to the user in different operations.

option_select()

This function will show all the options(From menu) to the user. The user can select which operation he/she wants to perform.

goto_menu()

This function will show the user two options . First one is to go to the main menu and the second one is to exit the program. This function will be called if one operation has been successfully performed or if the user entered his/her wrong credentials for 3 consecutive times.

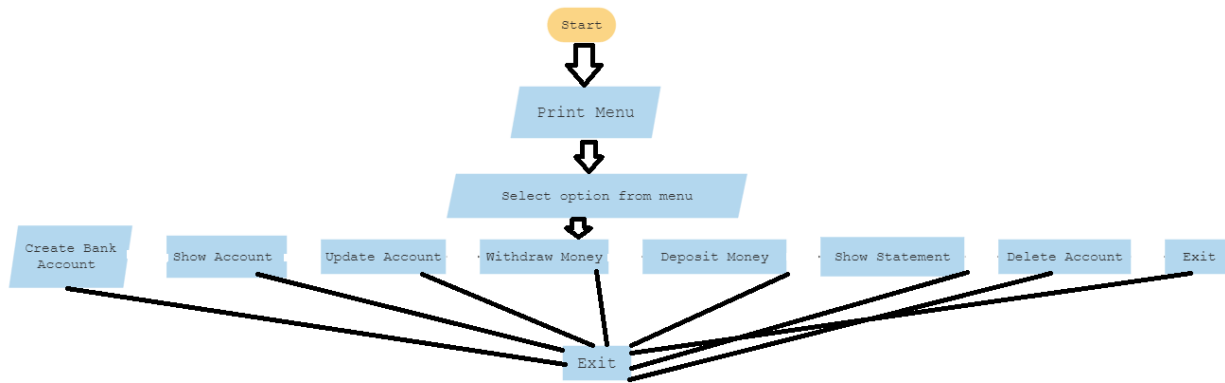
check_file()

This function will be called from the main menu at the beginning of the program. This function has been created to check if the OS is linux or not. Because if the program runs on linux then for the first time when it runs , it tries to check whether the user typed email address exists or not. Since the file will not be created by default then the program will crash. That's why if the system is linux then it will generate a "Record.txt" file.

exit_func()

This function will exit the execution of our program by printing out our group members name and id to the console.

Flowchart :



Code :

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <ctype.h>
#include <time.h>
#include "file_names.h"
#include "checkos.h"

typedef struct Bank
{
    char name[31];
    char password[9];
    char email[33];
    char address[30];
    char phone[12];
    int account_no;
    float balance;
} acc;

typedef struct Statement
{
    char type[20];
    int account;
    char name[31];
    float amt;
    char password[9];
    char date_time[100];
} stmt;

int attempt=0;
void welcome_message(void);    // This function will handle Welcome
Message
void line_start();
void line_end();
void show_msg(char tmp[],int to_time);
void new_line(int x);
int isName(char tmp[],int len);
```

```

int isEmail(char tmp[], int len);
int isPwd(char tmp[],int len);
int isPhn(char tmp[],int len);
int email_exs(char tmp[]);
void generate_acc(int *tmp);
void create_account();
void show_accounts();
void update_account();
void withdraw_money();
void deposit_money();
void show_statement();
void delete_account();
void menu();
void option_select();
void goto_menu();
void check_file();
void exit_func();
void main()
{
    check_file();
    new_line(1);
    menu();
    option_select();
}
void welcome_message()    // This function will handle Welcome Message
{
    char m[] = "$$$$$$$$$$ Welcome To The Bank Management System
$$$$$$$$$$$$";
    for(int i=0; i<strlen(m); i++)
    {
        printf("%c",m[i]);
        wait(120);
    }
}
void line_start()
{
    printf("\t\t=====
=====\\n");
}
void line_end()
{
    printf("\t\t=====
=====\\n\\n");
}
void show_msg(char tmp[],int to_time)
{
    printf("\t\t\t\t\t");
}

```



```

    for(int i=0; i<strlen(tmp); i++)
    {
        printf("%c",tmp[i]);
        wait(to_time);
    }
}

void new_line(int x)        // This function will handle New lines
{
    for (int i = 0; i < x; i++)
    {
        printf("\n");
    }
}

int isName(char tmp[],int len)
{
    int i;
    int letter=1;
    for(i=0; i<len; i++)
    {
        if(isspace(tmp[i]) || tmp[i]=='.')
        {
            continue;
        }
        else if(!isalpha(tmp[i]))
        {
            letter = 0;
            break;
        }
    }

    if(letter && (len <= 30) )
    {
        return true;
    }
    else
    {
        return false;
    }
}

int isEmail(char tmp[], int len)
{
    int sp = 0, dot = 0;
    for (int i = 0; i < len; i++)
    {
        if (tmp[i] == '@')
        {
            sp++;
        }
    }
}

```

```

        else if (tmp[i] == '.')
        {
            dot++;
        }
    }

    if ((sp == 1) && (dot >= 1))
    {
        return true;
    }
    else
    {
        return false;
    }
}

int isPwd(char tmp[],int len)
{
    int upper=0,lower=0,s_c=0,digit=0,white_space=0;
    int i;
    for(i=0; i<len; i++)
    {
        if(islower(tmp[i]))
        {
            lower = 1;
        }
        else if(isupper(tmp[i]))
        {
            upper=1;
        }
        else if(isdigit(tmp[i]))
        {
            digit=1;
        }
        else if(isspace(tmp[i]))
        {
            white_space=1;
        }
        else
        {
            s_c=1;
        }
    }
    if(upper && lower && digit && !white_space && s_c && len==8)
    {
        return true;
    }
    else
    {
        return false;
    }
}

```

```

    }
}
int isPhn(char tmp[],int len)
{
    int i;
    if(!(len==11))
    {
        return false;
    }
    for(i=0; i<len; i++)
    {
        if(!isdigit(tmp[i]))
        {
            return false;
            break;
        }
    }
}
int email_exs(char tmp[])
{
    acc tmp_data;
    FILE *file_email_check;
    file_email_check=fopen(main_file,main_file_mode_read);
    int isFound=1;

while(fscanf(file_email_check,"%d\t%[^\\t]*c\\t%s\\t%s\\t%s\\t%[^\\t]*c\\t%f\\n",&tmp_data.acount_no,tmp_data.name,tmp_data.email,tmp_data.phone,tmp_data.password,tmp_data.address,&tmp_data.balance) != EOF)
    {
        if(strcmp(tmp,tmp_data.email)==0)
        {
            isFound=0;
            break;
        }
    }
    fclose(file_email_check);
    if(isFound)
    {
        return true;
    }
    else
    {
        return false;
    }
}
void generate_acc(int *tmp)
{
    acc info;
    int tmp_act,count=0;;

```

```

FILE *file_gnr_acc;
file_gnr_acc=fopen(main_file,main_file_mode_read);
if(file_gnr_acc == NULL)
{
    tmp_act=223;
    fclose(file_gnr_acc);
    *tmp=tmp_act;
}
else
{

while(fscanf(file_gnr_acc,"%d\t%[^\t]*c\t%s\t%s\t%s\t%[^\t]*c\t%f\n",&
info.acount_no,info.name,info.email,info.phone,info.password,info.address,&info.balance)!= EOF)
    {
        tmp_act=info.acount_no;
        count++;
    }
}
fclose(file_gnr_acc);
if(count==0)
{
    *tmp=223;
}
else
{
    *tmp=tmp_act + 1;
}

}

void create_account()
{
    clear_scr();
    line_start();
    show_msg("Create New Account",100);
    new_line(1);
    line_end();
    new_line(2);

    acc info;
    printf("\t\t\t\tEnter Name: ");
goback_name:
    scanf(" %[^\\n]*c", info.name);
    if (!isName(info.name,strlen(info.name)))
    {
        new_line(1);
        printf("\t\t\t\tPlease Enter A Valid Name: ");
        goto goback_name;
    }
}

```

```

    printf("\t\t\t\tEnter Email: ");
goback_email:
    scanf(" %[^\\n]*c", info.email);
    if(!email_exs(info.email))
    {
        new_line(1);
        printf("\t\t\t\tEmail Already Exists!!!\\n\\n\t\t\t\tEnter Again:
");
        goto goback_email;
    }
    if (!isEmail(info.email, strlen(info.email)))
    {
        new_line(1);
        printf("\t\t\t\tPlease Enter Valid Email Address: ");
        goto goback_email;
    }
    printf("\t\t\t\tPlease enter your password (8 Characters): ");
goback_password:
    scanf(" %s", info.password);
    if (!isPwd(info.password, strlen(info.password)))
    {
        new_line(1);
        printf("\tPlease Enter a password which have special character,
digit, Upper case , Lower Case letter: ");
        goto goback_password;
    }
    printf("\t\t\t\tEnter phone Number: ");
goback_phone:
    scanf(" %s", info.phone);
    if (!isPhn(info.phone, strlen(info.phone)))
    {
        new_line(1);
        printf("\t\t\t\tPlease Enter a valid phone number (11 Digits):
");
        goto goback_phone;
    }

    printf("\t\t\t\tEnter address : ");
goback_address:

    scanf(" %[^\\n]*c", info.address);
    if (strlen(info.address) > 30)
    {
        new_line(1);
        printf("\t\t\t\tPlease Enter address less than 30 characters:
");
        goto goback_address;
    }

```

[illegible]

[illegible]

```

.acount_no,info.name,info.email,info.phone,info.password,info.address,&info.balance)!= EOF)
{
    if((info.acount_no == tmp_acc) &&
(strcmp(info.password,tmp_pwd)==0))
    {
        clear_scr();
        new_line(2);
        printf("\t\t\t Welcome %s !!!",info.name);
        new_line(3);
        printf("\t\t\t Please Select what you want to edit ==>\n\n");
        printf("\t\t\t [1]Name\n\n");
        printf("\t\t\t [2]Email\n\n");
        printf("\t\t\t [3]Password\n\n");
        printf("\t\t\t [4]Phone");
        new_line(3);
        printf("\t\t\t Please Enter your choice [1-4]: ");
check_op:
        scanf("%d",&op);
        switch (op)
        {
            case 1:
                printf("\t\t\t Enter your new name: ");
goback_name:
                scanf(" %[^\\n]*c",tmp_up);
                if(!isName(tmp_up,strlen(tmp_up)))
                {
                    printf("\t\t\t Please Enter a valid name: ");
                    goto goback_name;
                }
                else
                {
                    strcpy(info.name,tmp_up);

fprintf(filew_up,"%d\\t%s\\t%s\\t%s\\t%s\\t%.2f\\n",info.acount_no,info.name,info.email,info.phone,info.password,info.address,info.balance);
                    printf("\t\t\t Name Updated!!!!");
                    new_line(2);
                    state=1;
                    attempt=0;
                }
                break;
            case 2:
                printf("\t\t\t Your Current Email Address is :
%s",info.email);
                new_line(2);
                printf("\t\t\t Enter your new email: ");
goback_email:
                scanf(" %s",tmp_up);

```



```

        if(!isEmail(tmp_up,strlen(tmp_up)))
        {
            printf("\t\t\t\t Please Enter a valid name: ");
            goto goback_email;
        }
        else
        {
            strcpy(info.email,tmp_up);

fprintf(filew_up,"%d\t%s\t%s\t%s\t%s\t%s\t%.2f\n",info.acount_no,info.name,info.email,info.phone,info.password,info.address,info.balance);
            printf("\t\t\t\t Email Updated!!!!");
            new_line(2);
            state=1;
            attempt=0;
        }
        break;
    case 3:
        printf("Enter your new password: ");
goback_pwd:
        scanf(" %s",tmp_up);
        if(!isPwd(tmp_up,strlen(tmp_up)))
        {
            printf("Please Enter a valid password: ");
            goto goback_pwd;
        }
        else
        {
            strcpy(info.password,tmp_up);

fprintf(filew_up,"%d\t%s\t%s\t%s\t%s\t%s\t%.2f\n",info.acount_no,info.name,info.email,info.phone,info.password,info.address,info.balance);
            printf("\t\t\t\t Password Updated!!!!");
            new_line(2);
            state=1;
            attempt=0;
        }
        break;
    case 4:
        printf("\t\t\t\t Your Current Phone number is :
%s",info.phone);
        new_line(2);
        printf("\t\t\t\t Enter your new Phone Number: ");
goback_phone:
        scanf(" %s",tmp_up);
        if(!isPhn(tmp_up,strlen(tmp_up)))
        {
            printf("\t\t\t\t Please Enter a valid Phone Number: ");
            goto goback_phone;

```

```

        }
        else
        {
            strcpy(info.phone,tmp_up);

fprintf(filew_up,"%d\t%s\t%s\t%s\t%s\t%.2f\n",info.acount_no,info.name,info.email,info.phone,info.password,info.address,info.balance);
            printf("\t\t\t\t Phone number Updated!!!!");
            new_line(2);
            state=1;
            attempt=0;
        }
        break;
    default:
        printf("\t\t\tPlease Enter in the range [0-4]:");
        goto check_op;
        break;
    }
}
else
{

fprintf(filew_up,"%d\t%s\t%s\t%s\t%s\t%.2f\n",info.acount_no,info.name,info.email,info.phone,info.password,info.address,info.balance);
    }
}
if(state)
{
    fclose(filer_up);
    fclose(filew_up);
    remove(main_file);
    rename(tmp_file,main_file);
    new_line(1);
    attempt=0;
    goto_menu();
}
else if(attempt < 2)
{
    printf("\t\t\t\tYou have entered wrong info!!!!");
    fclose(filer_up);
    fclose(filew_up);
    remove(tmp_file);
    new_line(1);
    attempt++;
    new_line(2);
    wait(2000);
    show_msg("Reloading section.....",550);
    new_line(1);
    update_account();
}

```

```

    }
else
{
    printf("\t\t\t\t\tYou have entered maximum amount of time!!!!");
    fclose(filer_up);
    fclose(filew_up);
    remove(tmp_file);
    new_line(2);
    attempt=0;
    goto_menu();
}

}

void withdraw_money()
{
    clear_scr();
    new_line(1);
    line_start();
    show_msg("Withdraw Money !!!",100);
    new_line(2);
    line_end();
    new_line(1);
    acc info;
    FILE *filer_wtr;
    FILE *filew_wtr;
    FILE *filew_1_wtr;
    int state;
    int tmp_acc,op;
    float amt;
    char tmp_pwd[100];
    char tmp_up[50];
    state=0;
    filer_wtr=fopen(main_file,main_file_mode_read);
    filew_1_wtr=fopen(tmp_file,tmp_file_append);
    printf("\t\t\t\t\t Please enter your account no: ");
    scanf("%d",&tmp_acc);
    printf("\t\t\t\t\t Please enter your password: ");
    scanf(" %s",tmp_pwd);

while(fscanf(filer_wtr,"%d\t%[^\\t]*c\t%s\t%s\t%s\t%[^\\t]*c\t%f\\n",&info.account_no,info.name,info.email,info.phone,info.password,info.address,&info.balance)!= EOF)
{
    if((info.account_no == tmp_acc) &&
(strncmp(info.password,tmp_pwd)==0))
    {
        time_t t;
        time(&t);

```

```

        clear_scr();
        new_line(2);
        printf("\t\t\t Welcome %s !!!",info.name);
        new_line(1);
        printf("\t\t\t Your current account balance =
%.2f",info.balance);
        new_line(3);
        printf("\t\t\t\t Enter Amount: ");
        scanf("%f",&amt);
        if(amt > info.balance)
        {
            fclose(filew_1_wtr);
            fclose(filer_wtr);
            printf("\t\t\t You don't have enough balance!!!!");
            new_line(1);
            remove(tmp_file);
            attempt=0;
            goto_menu();
        }
        else
        {
            filew_wtr=fopen(txn_file,txn_file_mode_append);
            state=1;
            attempt=0;
            info.balance=info.balance-amt;

fprintf(filew_1_wtr,"%d\t%s\t%s\t%s\t%s\t%.2f\n",info.acount_no,info
.name,info.email,info.phone,info.password,info.address,info.balance);
            fprintf(filew_wtr,"Withdraw
%d\t%s\t%.2f\t%s\t%s",info.acount_no,info.name,amt,info.password,ctime(&
t));

            new_line(2);
            printf("\t\t\t\t %.2f Has been withdrawn from Account No:
%d",amt,info.acount_no);
            new_line(2);
            fclose(filew_wtr);
        }
    }
    else
    {

fprintf(filew_1_wtr,"%d\t%s\t%s\t%s\t%s\t%.2f\n",info.acount_no,info
.name,info.email,info.phone,info.password,info.address,info.balance);
    }
}
if(state)
{
    fclose(filer_wtr);
    fclose(filew_1_wtr);
}

```

```

        remove(main_file);
        rename(tmp_file,main_file);
        new_line(1);
        attempt=0;
        goto_menu();
    }
else if(attempt < 2)
{
    printf("\t\t\t\t\tYou have entered wrong info!!!!");
    fclose(filer_wtr);
    fclose(filew_1_wtr);
    remove(tmp_file);
    new_line(1);
    attempt++;
    new_line(2);
    wait(2000);
    show_msg("Reloading section.....",550);
    new_line(2);
    withdraw_money();
}
else
{
    printf("\t\t\t\t\tYou have entered maximum amount of time!!!!");
    fclose(filer_wtr);
    fclose(filew_1_wtr);
    remove(tmp_file);
    new_line(1);
    attempt=0;
    goto_menu();
}

}

void deposit_money()
{
    clear_scr();
    new_line(1);
    line_start();
    show_msg("Deposit Money !!!",100);
    new_line(2);
    line_end();
    new_line(1);
    acc info;
    FILE *filer_dpr;
    FILE *filew_dpr;
    FILE *filew_1_dpr;
    int state=0;
    int tmp_acc,op;
    float amt;

```

```

char tmp_pwd[100];
char tmp_up[50];
state=0;
filer_dpr=fopen(main_file,main_file_mode_read);
filew_1_dpr=fopen(tmp_file,tmp_file_append);
printf("\t\t\t\t Please enter your account no: ");
scanf("%d",&tmp_acc);
printf("\t\t\t\t Please enter your password: ");
scanf(" %s",tmp_pwd);

while(fscanf(filer_dpr,"%d\t%[^\\t]*c\t%s\t%s\t%s\t%[^\\t]*c\t%f\\n",&info.acount_no,info.name,info.email,info.phone,info.password,info.address,&info.balance)!= EOF)
{
    if((info.acount_no == tmp_acc) &&
(strcmp(info.password,tmp_pwd)==0))
    {
        time_t t;
        time(&t);
        clear_scr();
        new_line(2);
        printf("\t\t\t\t Welcome %s !!!",info.name);
        new_line(1);
        printf("\t\t\t\t Your current account balance =
%.2f",info.balance);
        new_line(3);
        printf("\t\t\t\t Enter Amount: ");
        scanf("%f",&amt);
        if(amt < 0 )
        {
            fclose(filew_1_dpr);
            fclose(filer_dpr);
            printf("\t\t\t\t You Have entered negative number!!!!!!");
            new_line(1);
            remove(tmp_file);
            attempt=0;
            goto_menu();
        }
        else
        {
            filew_dpr=fopen(txn_file,txn_file_mode_append);
            state=1;
            info.balance=info.balance + amt;

fprintf(filew_1_dpr,"%d\t%s\t%s\t%s\t%s\t%s\t%.2f\\n",info.acount_no,info.name,info.email,info.phone,info.password,info.address,info.balance);
            fprintf(filew_dpr,"Deposit
%d\t%s\t%.2f\t%s\t%s",info.acount_no,info.name,amt,info.password,ctime(&t));

```

```

        new_line(2);
        printf("\t\t\t\t%.2f Has been deposited to Account No:
%d",amt,info.acount_no);
        new_line(2);
        fclose(filew_dpr);
        attempt=0;
    }

}
else
{

fprintf(filew_1_dpr,"%d\t%s\t%s\t%s\t%s\t%.2f\n",info.acount_no,info
.name,info.email,info.phone,info.password,info.address,info.balance);
    }
}
if(state)
{
    fclose(filer_dpr);
    fclose(filew_1_dpr);
    remove(main_file);
    rename(tmp_file,main_file);
    new_line(1);
    attempt=0;
    goto_menu();
}
else if(attempt < 2)
{
    printf("\t\t\t\t\tYou have entered wrong info!!!!");
    fclose(filer_dpr);
    fclose(filew_1_dpr);
    remove(tmp_file);
    new_line(1);
    attempt++;
    new_line(2);
    wait(2000);
    show_msg("Reloading section.....",550);
    new_line(2);
    deposit_money();
}
else
{
    printf("\t\t\t\t\tYou have entered maximum amount of time!!!!");
    fclose(filer_dpr);
    fclose(filew_1_dpr);
    remove(tmp_file);
    new_line(1);
    attempt=0;
    goto_menu();
}

```

```

    }
}
void show_statement()
{
    clear_scr();
    new_line(1);
    line_start();
    show_msg("!!!Statement!!!",100);
    new_line(2);
    line_end();
    new_line(1);
    stmt txn;
    FILE *filer_stmt;
    int state=0,count=0;
    int tmp_acc,op;
    float amt;
    char tmp_pwd[100];
    char tmp_up[50];
goback_account:
    filer_stmt=fopen(txn_file,txn_file_mode_read);
    printf("\t\t\t\t\t Please enter your account no: ");
    scanf("%d",&tmp_acc);
    printf("\t\t\t\t\t Please enter your password: ");
    scanf(" %s",tmp_pwd);
    while(fscanf(filer_stmt,"%s
%d\t%[^\t]*c\t%f\t%s\t%[^n]*c\n",txn.type,&txn.account,txn.name,&txn.
amt,txn.password,txn.date_time)!= EOF)
    {
        if((txn.account == tmp_acc) &&
(strcmp(txn.password,tmp_pwd)==0))
        {
            state=1;

            //line_start();
            new_line(1);
            printf("\t\t\t\t\t Type: %s",txn.type);
            new_line(1);
            printf("\t\t\t\t\t Account No: %d",txn.account);
            new_line(1);
            printf("\t\t\t\t\t Amount: %.2f",txn.amt);
            new_line(1);
            printf("\t\t\t\t\t Date & Time: %s",txn.date_time);
            new_line(2);

        }
    }
    count++;
    if(!state)
    {

```



```

        fclose(filer_stmt);
        if(count > 2)
        {
            printf("\t\t\t\t You have tried maximum amount of times!!");
            new_line(2);
            goto_menu();
        }
        else
        {
            new_line(2);
            printf("\t\t\t\t You have entered wrong info!!!!");
            new_line(2);
            goto goback_account;
        }
    }
else
{
    fclose(filer_stmt);
    new_line(2);
    goto_menu();
}
}

void delete_account()
{
    clear_scr();
    line_start();
    show_msg("!!!Delete Your Account!!!",100);
    new_line(1);
    line_end();
    new_line(2);
    acc info;
    FILE *filer_dlt;
    FILE *filew_dlt;
    int state;
    int tmp_acc,op;
    char tmp_pwd[9];
    char tmp_up[50];
    state=0;
    filer_dlt=fopen(main_file,main_file_mode_read);
    filew_dlt=fopen(tmp_file,tmp_file_append);
    printf("\t\t\t\t Please enter your account no: ");
    scanf("%d",&tmp_acc);
    printf("\t\t\t\t Please enter your password: ");
    scanf(" %[^\\n]*c",tmp_pwd);

    while(fscanf(filer_dlt,"%d\\t%[^\\t]*c\\t%s\\t%s\\t%s\\t%[^\\t]*c\\t%f\\n",&info.account_no,info.name,info.email,info.phone,info.password,info.address,&info.balance)!= EOF)

```

```

{
    if((info.acount_no == tmp_acc) &&
(strncmp(info.password,tmp_pwd)==0))
    {
        clear_scr();
        new_line(2);
        printf("\t\t\t Welcome %s !!!",info.name);
        new_line(3);
        printf("\t\t\t Are you sure you want to delete your account
==>\n\n");
        printf("\t\t\t [1]YES\n\n");
        printf("\t\t\t [2]NO\n\n");
        printf("\t\t\t Please Enter your choice [1/2]: ");
check_op:
        scanf("%d",&op);
        switch (op)
        {
            case 1:
                new_line(2);
                printf("\t\t\t Account deleted!!!!!!");
                new_line(2);
                state=1;
                attempt=0;
                break;
            case 2:
                new_line(2);
                printf("\t\t\t Ok ! Will be happy to see you
again!!!!!!");
                new_line(2);

fprintf(filew_dlt,"%d\t%s\t%s\t%s\t%s\t%.2f\n",info.acount_no,info.n
ame,info.email,info.phone,info.password,info.address,info.balance);
                state=1;
                attempt=0;
                break;
            default:
                printf("\t\t\t Please Enter in the range [1-2]:");
                goto check_op;
                break;
        }
    }
    else
    {

fprintf(filew_dlt,"%d\t%s\t%s\t%s\t%s\t%.2f\n",info.acount_no,info.n
ame,info.email,info.phone,info.password,info.address,info.balance);
    }
}
if(state)

```

```

{
    fclose(filer_dlt);
    fclose(filew_dlt);
    remove(main_file);
    rename(tmp_file,main_file);
    new_line(1);
    attempt=0;
    goto_menu();
}
else if(attempt < 2)
{
    printf("\t\t\t\t\tYou have entered wrong info!!!!");
    fclose(filer_dlt);
    fclose(filew_dlt);
    remove(tmp_file);
    new_line(1);
    attempt++;
    new_line(2);
    wait(2000);
    show_msg("Reloading section.....",550);
    new_line(2);
    delete_account();
}
else
{
    printf("\t\t\t\t\tYou have entered maximum amount of time!!!!");
    fclose(filer_dlt);
    fclose(filew_dlt);
    remove(tmp_file);
    new_line(1);
    attempt=0;
    goto_menu();
}

}

void menu()
{
    clear_scr();
    welcome_message();
    new_line(2);
    printf("\t\t[1] Create Account\n\n");
    printf("\t\t[2] Show Existing Account (For Manager)\n\n");
    printf("\t\t[3] Update Existing Account\n\n");
    printf("\t\t[4] Deposit Money\n\n");
    printf("\t\t[5] Withdraw Money\n\n");
    printf("\t\t[6] Show Statement\n\n");
    printf("\t\t[7] Delete Account\n\n");
}

```

```

void option_select()
{
    int op;
    printf("\tEnter number[1-7] to get started or enter 0 to exit ");
check_op_again:
    scanf("%d", &op);
    {
        switch (op)
        {
            case 1:
                create_account();
                break;
            case 2:
                show_accounts();
                break;
            case 3:
                update_account();
                break;
            case 4:
                deposit_money();
                break;
            case 5:

                withdraw_money();
                break;
            case 6:
                show_statement();
                break;
            case 7:
                delete_account();
                break;
            case 0:
                exit_func();
                break;
            default:
                printf("\t\t\t\tPlease Enter any digit from 0 to 7:");
                goto check_op_again;
        }
    }
}

void goto_menu()
{
    int op;
    printf("\t\t\t\tEnter 1 to go to or main menu or 0 to exit ");
check_op_again:
    scanf("%d", &op);
    {
        switch (op)
        {

```

```

        case 1:
            menu();
            option_select();
            break;
        case 0:
            exit_func();
            break;
        default:
            printf("\t\t\t\tPlease Enter 1 or 0:");
            goto check_op_again;
    }
}

void check_file()
{
    if(!os)
    {
        FILE *filecheck;
        filecheck=fopen(main_file,main_file_mode_read);
        if(filecheck==NULL)
        {
            filecheck=fopen(main_file,main_file_mode_write);
            fclose(filecheck);
        }
        else
        {
            fclose(filecheck);
        }
    }
}

void exit_func()
{
    clear_scr();
    show_msg("Good Bye Form Bank management system!!!!",250);
    new_line(2);
    printf("\t\t\t\tTeam members =>");
    new_line(1);
    printf("\t\t\t\tMD. ABIR HOSSAIN (2233233642)");
    new_line(1);
    printf("\t\t\t\tMD. SOFWAN ISLAM (2231769642)");
    new_line(1);
    printf("\t\t\t\tMD. MEHEDI HASAN (2233674642)");
    new_line(2);
    exit(10);
}

```

code (file_names.h)

```

#define main_file "Record.txt"
#define main_file_mode_write "w"
#define main_file_mode_read "r"
#define main_file_mode_append "a+"
#define tmp_file "tmp.txt"
#define tmp_file_write "w"
#define tmp_file_read "r"
#define tmp_file_append "a+"
#define txn_file "Txn.txt"
#define txn_file_mode_read "r"
#define txn_file_mode_append "a+"

```

Code (checkos.h)

```

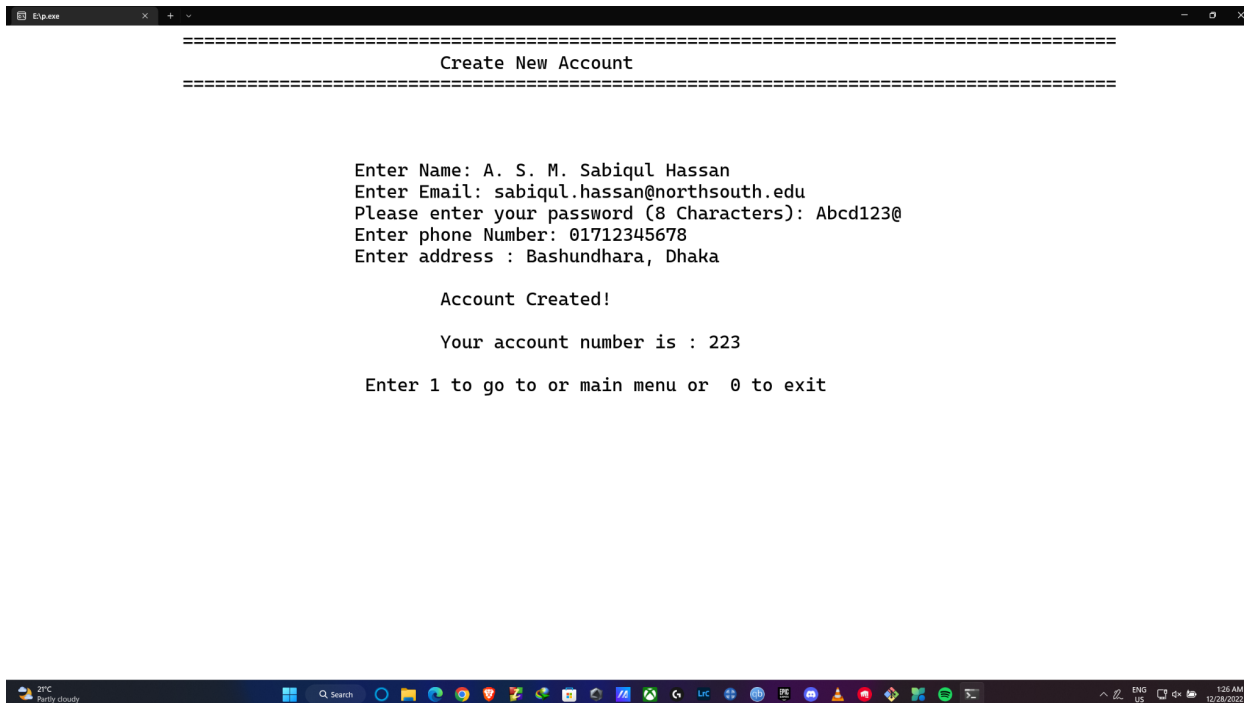
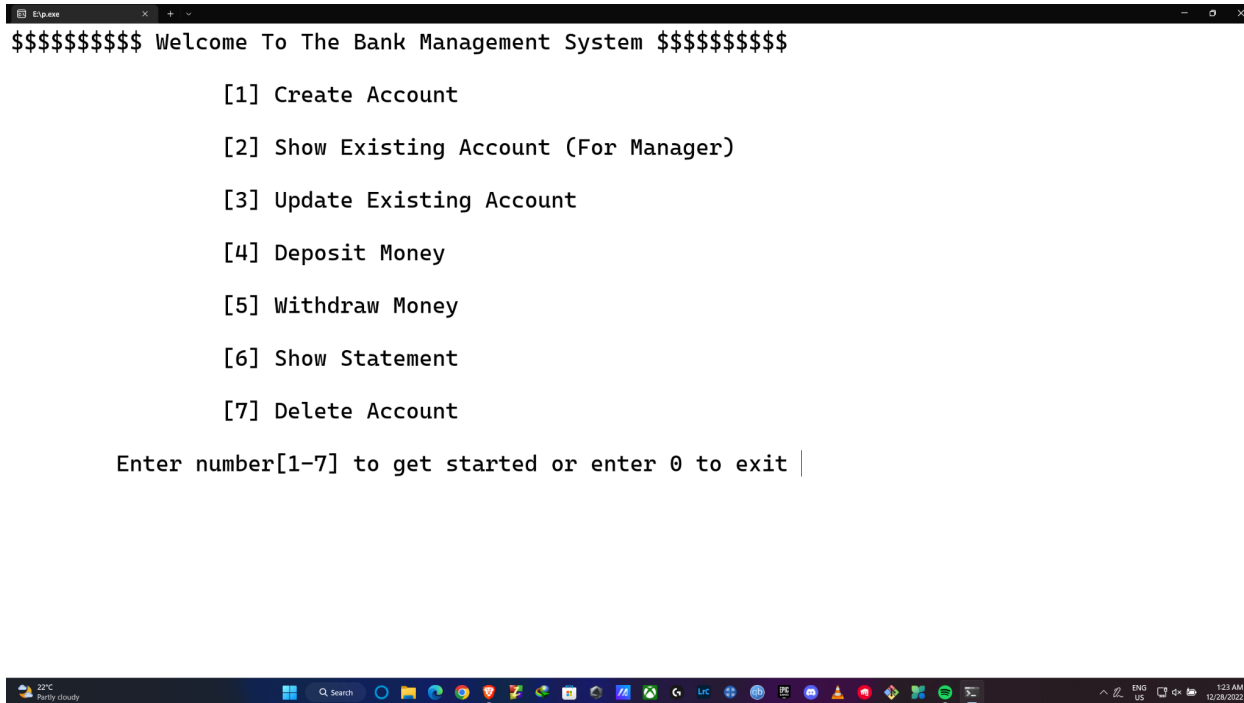
#ifdef _WIN32
    #ifdef _WIN64
        #include <windows.h>
        #define os 1
        void clear_scr(){
            system("cls");
        }
        void wait(float x){
            Sleep(x/10);
        }
    #else
        #include <windows.h>
        #define os 1
        void clear_scr(){
            system("cls");
        }
        void wait(float x){
            Sleep(x/10);
        }
    #endif
#else
    #include <unistd.h>
    #define os 0
    void clear_scr(){
        fflush(stdout);
        system("clear");
    }
    void wait(float x){
        fflush(stdout);

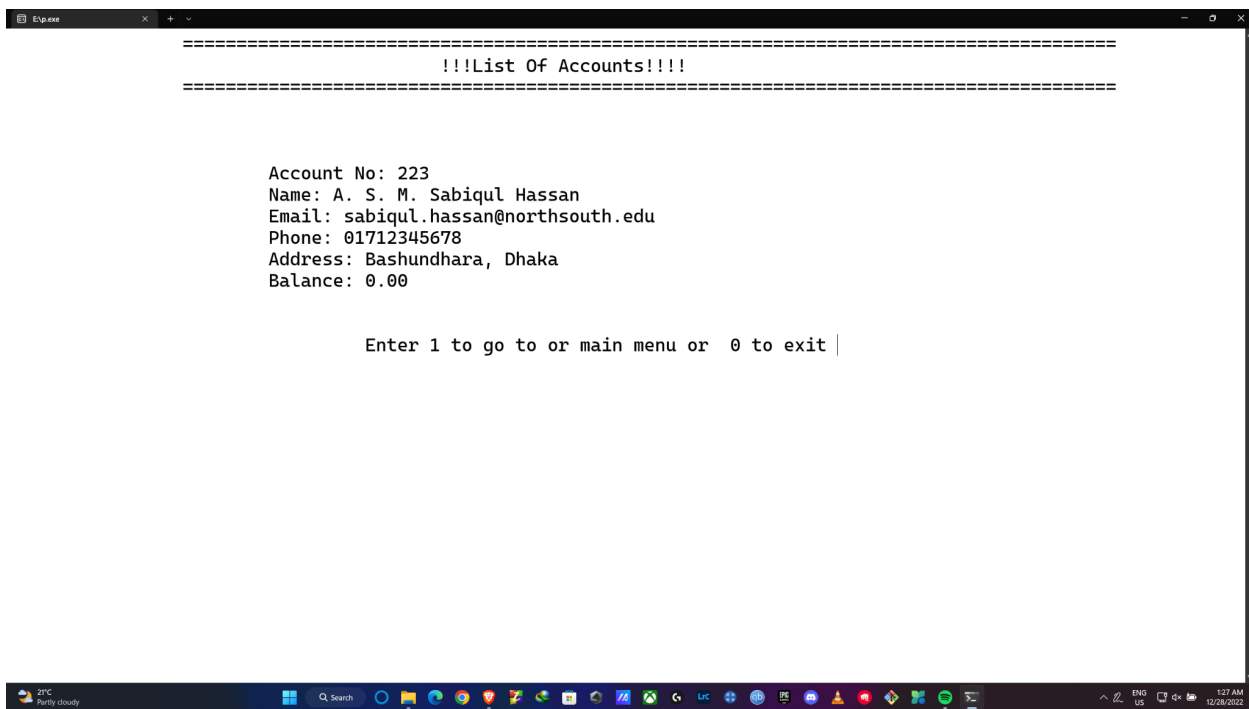
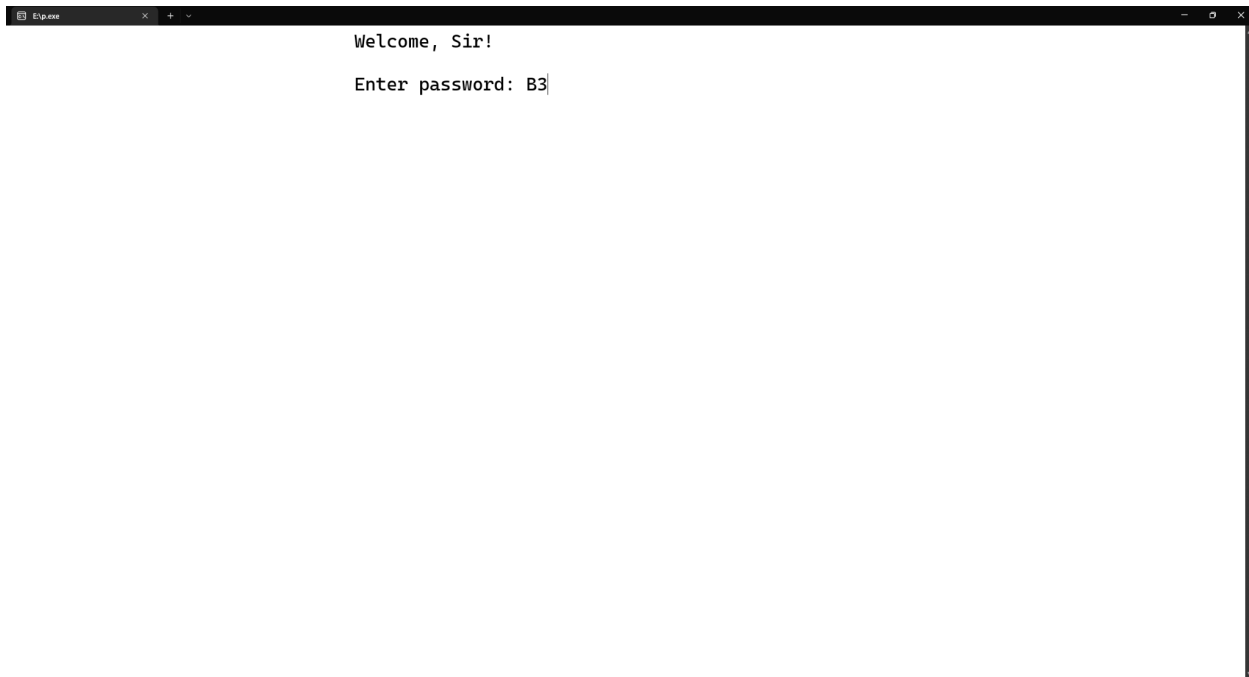
        usleep(x*100);
    }
#endif
#define true 1

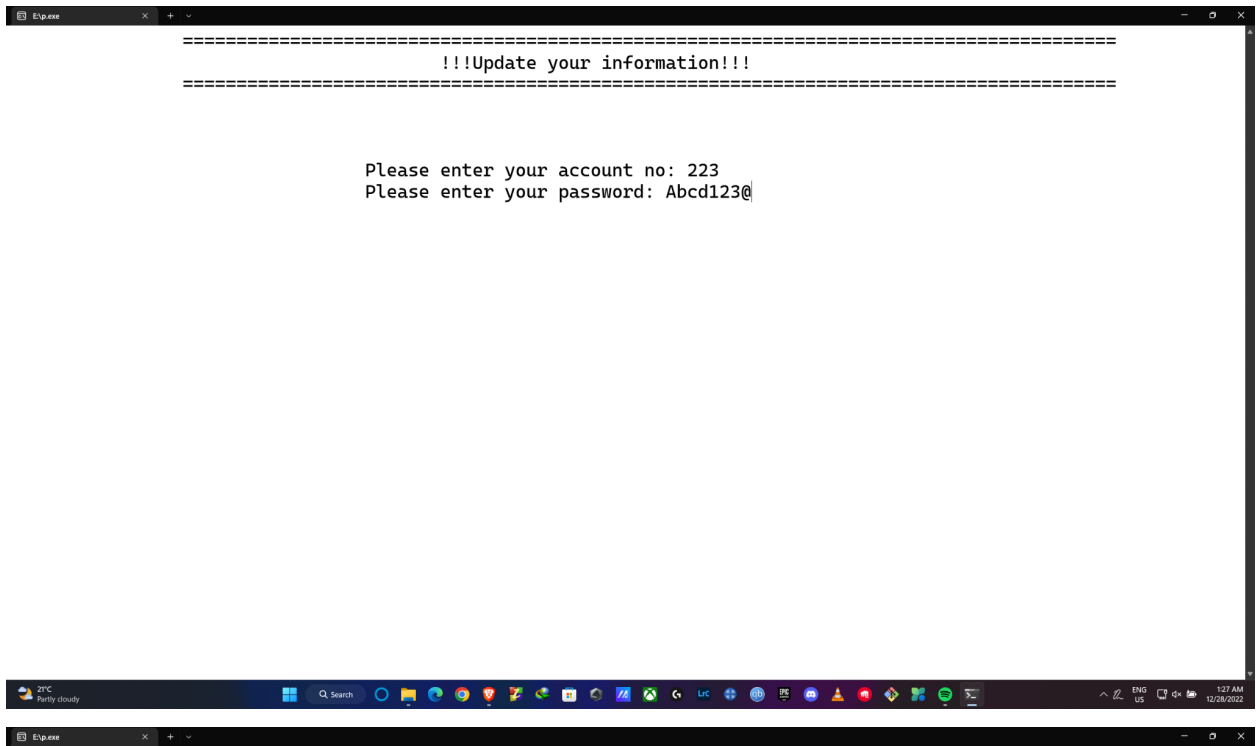
```

```
#define false 0
```

Screenshots :







Welcome A. S. M. Sabiqul Hassan !!!

Please Select what you want to edit ==>

[1]Name

[2]Email

[3>Password

[4]Phone

Please Enter your choice [1-4]:



Welcome A. S. M. Sabiqul Hassan !!!

Please Select what you want to edit ==>

[1]Name

[2>Email

[3>Password

[4]Phone

Please Enter your choice [1-4]: 4
Your Current Phone number is : 01712345678

Enter your new Phone Number: 01712345679
Phone number Updated!!!!

Enter 1 to go to or main menu or 0 to exit

=====

Deposit Money !!!

=====

Please enter your account no: 223
Please enter your password: Abcd123@

Welcome A. S. M. Sabiqul Hassan !!!
Your current account balance = 0.00

Enter Amount: 100000

100000.00 Has been deposited to Account No: 223

Enter 1 to go to or main menu or 0 to exit |

=====

Withdraw Money !!!

=====

Please enter your account no: 223
Please enter your password: Abcd123@

Welcome A. S. M. Sabiqul Hassan !!!
Your current account balance = 100000.00

Enter Amount: 25000

25000.00 Has been withdrawn from Account No: 223

Enter 1 to go to or main menu or 0 to exit |

=====
!!!Statement!!!
=====

Please enter your account no: 223
Please enter your password: Abcd123@

```
=====
!!!Statement!!!
=====

Please enter your account no: 223
Please enter your password: Abcd123@

Type: Deposit
Account No: 223
Amount: 100000.00
Date & Time: Wed Dec 28 01:29:13 2022

Type: Withdraw
Account No: 223
Amount: 25000.00
Date & Time: Wed Dec 28 01:29:57 2022

Enter 1 to go to or main menu or 0 to exit
```



```
=====
!!!Delete Your Account!!!
=====

Please enter your account no: 223
Please enter your password: Abcd123@
```



Welcome A. S. M. Sabiqul Hassan !!!

Are you sure you want to delete your account ==>

[1]YES

[2]NO

Please Enter your choice [1/2]: 1

Account deleted!!!!

Enter 1 to go to or main menu or 0 to exit |

Welcome A. S. M. Sabiqul Hassan !!!

Are you sure you want to delete your account ==>

[1]YES

[2]NO

Please Enter your choice [1/2]: 2

Ok ! Will be happy to see you again!!!!

Enter 1 to go to or main menu or 0 to exit |