

A Micro Project Report

on

Problem Solving using C Language

Submitted by

SHAIK ISMAIL (23471A05IG)



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

NARASARAOPETA ENGINEERING COLLEGE: NARASARAOPET

(AUTONOMOUS)

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NARASARAOPETA ENGINEERING COLLEGE: NARASARAOPET
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CERTIFICATE

This is to certify that **Shaik Ismail**, **Roll No: 23471A05IG**, a Second Year Student of the Department of Computer Science and Engineering, has completed the Micro Project Satisfactorily in “Problem Solving using C Language” for the Academic Year 2024-2025..

Project Co-Ordinator
Mr. Shaik Rafi, M.Tech., (Ph.D).

Asst. Professor

HEAD OF THE DEPARTMENT
Dr. S. N. Tirumala Rao, M.Tech., Ph.D.

Professor

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SI.NO	DESCRIPTION
1.	To develop Banking System-Implement account creation, transactions, and balance inquiry with file storage

BANKING SYSTEM-IMPLEMENTATION

AIM:

To develop Banking System-Implement account creation, transactions, and balance inquiry with file storage

Source code:

```
#include <stdio.h>

#include <stdlib.h>

#include <string.h>


#define FILENAME "accounts.dat"


typedef struct {

    int account_number;

    char name[50];

    float balance;

} Account;


// Function prototypes

void create_account();

void deposit();

void withdraw();

void check_balance();

void save_account(Account account);

Account *find_account(int account_number);

void display_menu();
```

```
int main() {  
  
    int choice;  
  
    while (1) {  
  
        display_menu();  
  
        printf("\nEnter your choice: ");  
  
        scanf("%d", &choice);  
  
  
        switch (choice) {  
  
            case 1:  
  
                create_account();  
  
                break;  
  
            case 2:  
  
                deposit();  
  
                break;  
  
            case 3:  
  
                withdraw();  
  
                break;  
  
            case 4:  
  
                check_balance();  
  
                break;  
  
            case 5:  
  
                printf("Exiting...\n");  
  
                exit(0);  
  
            default:  
  
                printf("Invalid choice. Please try again.\n");  
  
        }  
    }  
}
```

```
}

return 0;

}


void display_menu() {

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

    printf("1. Create Account\n");

    printf("2. Deposit\n");

    printf("3. Withdraw\n");

    printf("4. Check Balance\n");

    printf("5. Exit\n");

}


// Create a new account

void create_account() {

    Account account;

    FILE *file = fopen(FILENAME, "ab");

    if (file == NULL) {

        perror("Unable to open file");

        return;

    }

    printf("Enter account number: ");

    scanf("%d", &account.account_number);

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

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

account.balance = 0.0;


fwrite(&account, sizeof(Account), 1, file);

fclose(file);


printf("Account created successfully.\n");
}


// Deposit money into an account
void deposit() {

    int account_number;

    float amount;

    Account *account;


    printf("Enter account number: ");

    scanf("%d", &account_number);

    account = find_account(account_number);


    if (account == NULL) {

        printf("Account not found.\n");

        return;

    }


    printf("Enter amount to deposit: ");

    scanf("%f", &amount);
```

```
account->balance += amount;

save_account(*account);

printf("Deposit successful. New balance: %.2f\n", account->balance);


free(account);
}
```

// Withdraw money from an account

```
void withdraw() {

    int account_number;

    float amount;

    Account *account;

    printf("Enter account number: ");

    scanf("%d", &account_number);

    account = find_account(account_number);

    if (account == NULL) {

        printf("Account not found.\n");

        return;

    }

    printf("Enter amount to withdraw: ");

    scanf("%f", &amount);
```



```
if (amount > account->balance) {  
    printf("Insufficient balance.\n");  
} else {  
    account->balance -= amount;  
    save_account(*account);  
    printf("Withdrawal successful. New balance: %.2f\n", account->balance);  
}  
  
free(account);  
}  
  
// Check the balance of an account  
void check_balance() {  
    int account_number;  
    Account *account;  
  
    printf("Enter account number: ");  
    scanf("%d", &account_number);  
    account = find_account(account_number);  
  
    if (account == NULL) {  
        printf("Account not found.\n");  
    } else {  
        printf("Account Number: %d\nName: %s\nBalance: %.2f\n", account->account_number, account->name, account->balance);  
    }  
}
```

```
    free(account);
}

// Find an account in the file
Account *find_account(int account_number) {
    FILE *file = fopen(FILENAME, "rb");

    Account *account = malloc(sizeof(Account));

    if (file == NULL) {
        perror("Unable to open file");
        free(account);
        return NULL;
    }

    while (fread(account, sizeof(Account), 1, file)) {
        if (account->account_number == account_number) {
            fclose(file);
            return account;
        }
    }

    fclose(file);
    free(account);
    return NULL;
}
```

```
// Save an updated account to the file

void save_account(Account account) {

    FILE *file = fopen(FILENAME, "rb+");

    Account temp;

    if (file == NULL) {

        perror("Unable to open file");

        return;

    }

    while (fread(&temp, sizeof(Account), 1, file)) {

        if (temp.account_number == account.account_number) {

            fseek(file, -sizeof(Account), SEEK_CUR);

            fwrite(&account, sizeof(Account), 1, file);

            break;

        }

    }

    fclose(file);

}
```

OUTPUT:

**** Banking System ****

1. Create Account
2. Deposit
3. Withdraw
4. Check Balance
5. Exit

Enter your choice:1

Enter account number: 101

Enter name: Ismail

Account created successfully.

**** Banking System ****

1. Create Account
2. Deposit
3. Withdraw
4. Check Balance
5. Exit

Enter your choice:2

Enter account number: 101

Enter amount to deposit: 500

Deposit successful. New balance: 500.00

**** Banking System ****

1. Create Account
2. Deposit
3. Withdraw
4. Check Balance
5. Exit

Enter your choice: 3

Enter account number: 101

Enter amount to withdraw: 200

Withdrawal successful. New balance: 300.00

**** Banking System ****

1. Create Account
2. Deposit
3. Withdraw
4. Check Balance
5. Exit

Enter your choice: 4

Enter account number: 101

Account Number: 101

Name: Ismail

Balance: 300.00

**** Banking System ****

1. Create Account

2. Deposit

3. Withdraw

4. Check Balance

5. Exit

Enter your choice: 5

Exiting...