A Micro Project Report

on

Problem Solving using C Language

Submitted by

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

NARASARAOPETA ENGINEERING COLLEGE: NARASARAOPET

(AUTONOMOUS)

Accredited by NAAC with A+ Grade and NBA under Tier-1

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NARASARAOPETA ENGINEERING COLLEGE: NARASARAOPET

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CERTIFICATE

This is to certify that Shaik.Bi Bi sameera, Roll No: 23471A05EH, 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..

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BANKING SYSTEM WITH FILE STORAGE

AIM:

Write a c program to implement account creations, transactions, and balance enquiry with file storage.

```
#include <stdio.h>
#include <stdlib.h>
#define FILENAME "accounts.dat"
typedef struct
{
    int account_number;
    char name[50];
    float balance;
} Account;

void createAccount(), deposit(), withdraw(), balanceInquiry(), displayMenu();
void saveAccount(Account account);
int loadAccount(int account_number, Account *account);

int main()
{
    int choice;
```

```
    while (1)
    {
        displayMenu();
        printf("Enter your choice: ");
        scanf("%d",  &choice);
        switch (choice)
        {
            case 1: createAccount();
                    break;
            case 2: deposit();
                    break;
            case 3: withdraw();
                     break;
            case 4: balanceInquiry();
                    break;
            case 5: printf("Exiting...\n");
                    exit(0);
            default: printf("Invalid choice! Please try again.\n");
        }
        printf("\n");
    }
    return 0;
}

void displayMenu()
{
```

```
    printf("======== Banking System ========\n1. Create Account\n2.
Deposit\n3. Withdraw\n4. Balance Inquiry\n5.
Exit\n==============================\n");
}

void createAccount()
{
    Account account;
    FILE *file = fopen(FILENAME, "ab");
    if (!file)
    {
        printf("Error opening file!\n");
        return;

    }
    printf("Enter account number: ");
    scanf("%d", &account.account_number);
    printf("Enter name: ");
    scanf(" %[^\n]", account.name);
    account.balance = 0.0;
    fwrite(&account, sizeof(Account), 1, file);
    fclose(file);
    printf("Account created successfully!\n");
}

void deposit()
{
```

```
    int account_number;
    float amount;
    Account account;
    printf("Enter account number: ");
    scanf("%d", &account_number);
    if (!loadAccount(account_number, &account))
    {
        printf("Account not found!\n");
        return;

    }
    printf("Enter amount to deposit: ");
    scanf("%f", &amount);
    account.balance += amount;
    saveAccount(account);
    printf("Deposit successful! New balance: %.2f\n", account.balance);
}

void withdraw()
{
    int account_number;
    float amount;
    Account account;
    printf("Enter account number: ");
    scanf("%d", &account_number);
    if (!loadAccount(account_number, &account))
```

```
    {
        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;
        saveAccount(account);
        printf("Withdrawal successful! New balance: %.2f\n", account.balance);

    }
}
void balanceInquiry()
{
    int account_number;
    Account account;
    printf("Enter account number: ");
    scanf("%d", &account_number);
    if (!loadAccount(account_number, &account))
    {
```

```
        printf("Account not found!\n");
        return;
    }
    printf("Account Number: %d\nAccount Holder: %s\nBalance: %.2f\n",
account.account_number, account.name, account.balance);
}

int loadAccount(int account_number, Account *account)
{
    FILE *file = fopen(FILENAME, "rb");
    if (!file)
    return 0;
    while (fread(account, sizeof(Account), 1, file))
    if (account->account_number == account_number)
    {
        fclose(file);
        return 1;
    }
    fclose(file);
    return 0;
}

void saveAccount(Account account)
{
    FILE *file = fopen(FILENAME, "rb+");
    Account temp;
    if (!file)
```

```
    {
        printf("Error opening file!\n");
        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);
            fclose(file);
            return;
        }
    fclose(file);
}
```

INPUT:

```
========Banking System========
1.Create Account
2.Deposit
3.Withdraw
4.Balance Inquiry
5.Exit
============================
Enter your choice:1
Enter account number: 1234567890
Enter name: Hyma
```

Output:

```
Account created successfully!
```

Output:

```
======== Banking System ========

1. Create Account
2. Deposit
3. Withdraw
4. Balance Inquiry
5. Exit
==============================
Enter your choice: 1
Enter account number: 1234567890
Enter name: Hyma
Account created successfully!

======== Banking System ========

1. Create Account
2. Deposit
3. Withdraw
4. Balance Inquiry
5. Exit
==============================
Enter your choice: 2
Enter account number: 1234567890
Enter amount to deposit: 1000
Deposit successful! New balance: 1000.00

======== Banking System ========
```

```
1. Create Account
2. Deposit
3. Withdraw
4. Balance Inquiry
5. Exit
==============================
Enter your choice: 3
Enter account number: 1234567890
Enter amount to withdraw: 300
Withdrawal successful! New balance: 700.00


=========Banking system========


1. Create Account
2. Deposit
3. Withdraw
4. Balance Inquiry
5. Exit
==============================
Enter your choice: 4
Enter account number: 1234567890
Account Number: 1234567890
Account Holder: Hyma
Balance:700.00


======== Banking System ========


1. Create Account
2. Deposit
```

```
3. Withdraw
4. Balance Inquiry
5. Exit.

============================

Enter your choice: 4

Enter account number:1234567890
Account Number: 1234567890
Account Holder: Hyma


======== Banking System


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


========================
```