A Course Based Project Report on

BANK MANAGEMENT SYSTEM

Submitted to the

Department of Information Technology

in partial fulfillment of the requirements for the completion of course
DATA STRUCTURES LABORATORY (A19ES2IT01)

BACHELOR OF TECHNOLOGY

IN

INFORMATION TECHNOLOGY

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DEPARTMENT OF INFORMATION TECHNOLOGY

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An Autonomous Institute, NAAC Accredited with 'A++' Grade, NBA

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VALLURUPALLI NAGESWARA RAO VIGNANA JYOTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY

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CERTIFICATE

This is to certify that the project report entitled "**Bank Management System**" is a bonafide work done under our supervision and is being submitted by **Mr. Nithin Nayak(23071A1282), Miss. BhavyaSri(23071A1284), Miss. Srivalli (23071A1290), Mr. Rakesh (23071A1291)** in partial fulfilment for the award of the degree of **Bachelor of Technology** in Information Technology, of the VNRVJIET, Hyderabad during the academic year 2023-2024.

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DECLARATION

We declare that the course based project work entitled "**BANK MANAGEMENT SYSTEM"** submitted in the Department of Information Technology, Vallurupalli Nageswara Rao Vignana Jyothi Institute of Engineering and Technology, Hyderabad, in partial fulfilment of the requirement for the award of the degree of **Bachelor of Technology in Information Technology** is a bonafide record of our own work carried out under the supervision of **Course Instructor Name, Assistant Professor, Department of IT, VNRVJIET.** Also, we declare that the matter embodied in this thesis has not been submitted by us in full or in any part thereof for the award of any degree/diploma of any other institution or university previously.

Place: Hyderabad.

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ABSTRACT

Bank Management System is based on a concept to generate and maintain daily payment transactions with the customer's account. Before stepping into the main of the user has to pass through login system to get access, then only he/she can use all the features of the system which includes Adding, Removing, Updating and viewing records, withdraw and deposit cash feature, check details of existing customers and another one is ATM feature.

Transaction through a bank is either done by Depositing or Withdrawing amounts. So here the user can use both of the features easily. Whenever a user wants to withdraw or deposit some amount of money he/she has to provide Amount then the system automatically maintain his/her Transaction record with total bank balance. And another thing is that while checking a customer's account in detail the system will display a bank interest information. This system calculates interest per month and displays to the user.

The Bank Account Management System is an application for maintaining a person's account in a bank. In this project we tried to show the working of a banking account system and cover the basic functionality of a Bank Account Management System. To develop a project for solving financial applications of a customer in banking environment in order to nurture the needs of an end banking user by providing various ways to perform banking tasks. Also to enable the user's work space to have additional functionalities which are not provided under a conventional banking project. The Bank Account Management System undertaken as a project is based on relevant technologies

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INTRODUCTION

1.1 PROBLEM DEFINITION

Bank Management System is based on a concept to generate and maintain daily payment transactions with the customer's account. Before stepping into the main system a user has to pass through login system to get access, then only he/she can use all the features of the system which includes Adding, Removing, Updating and viewing records, withdraw and deposit cash feature, check details of existing customers and another one is ATM feature.

Talking about the features of Bank Management System, while entering customer's record he/she has to provide the current date, account number, name, date of birth, age, address, citizenship number, phone number, the amount deposited while creating an account and select account type. Under this, there are five types of account, Saving, Current, Fixed (for 1 year), Fixed (for 2 years), Fixed (for 3 years). But while updating customer's information from existing account, he/she can only change address and phone number. There are two methods to check a user's account in detail i.e by Account number or by Account name. The other listing record displays customer's name with an Account number, address and contact detail. This necessitates the design to be expanded and modifiable and so a modular approach is used in developing the applications software. Anybody who is an account holder in this bank can become a member of Bank Account Management Syst

2.SOURCE CODE

```
#include <stdio.h>
#include <string.h>
#define MAX_ACCOUNTS 100
// Structure to represent an account
struct Account {
    int acc_num;
    char name[50];
    float balance;
    char transactions[100][100]; // Assuming a maximum of 100 transactions per
account
    int num_transactions;
};
// Bank structure to hold multiple accounts
struct Bank {
    struct Account accounts[MAX_ACCOUNTS];
    int num_accounts;
};
// Function prototypes
void create_account(struct Bank *bank, int acc_num, char *name, float balance);
void deposit(struct Bank *bank, int acc_num, float amount);
void withdraw(struct Bank *bank, int acc_num, float amount);
void display_balance(struct Bank *bank, int acc_num);
void display_transactions(struct Bank *bank, int acc_num);
```

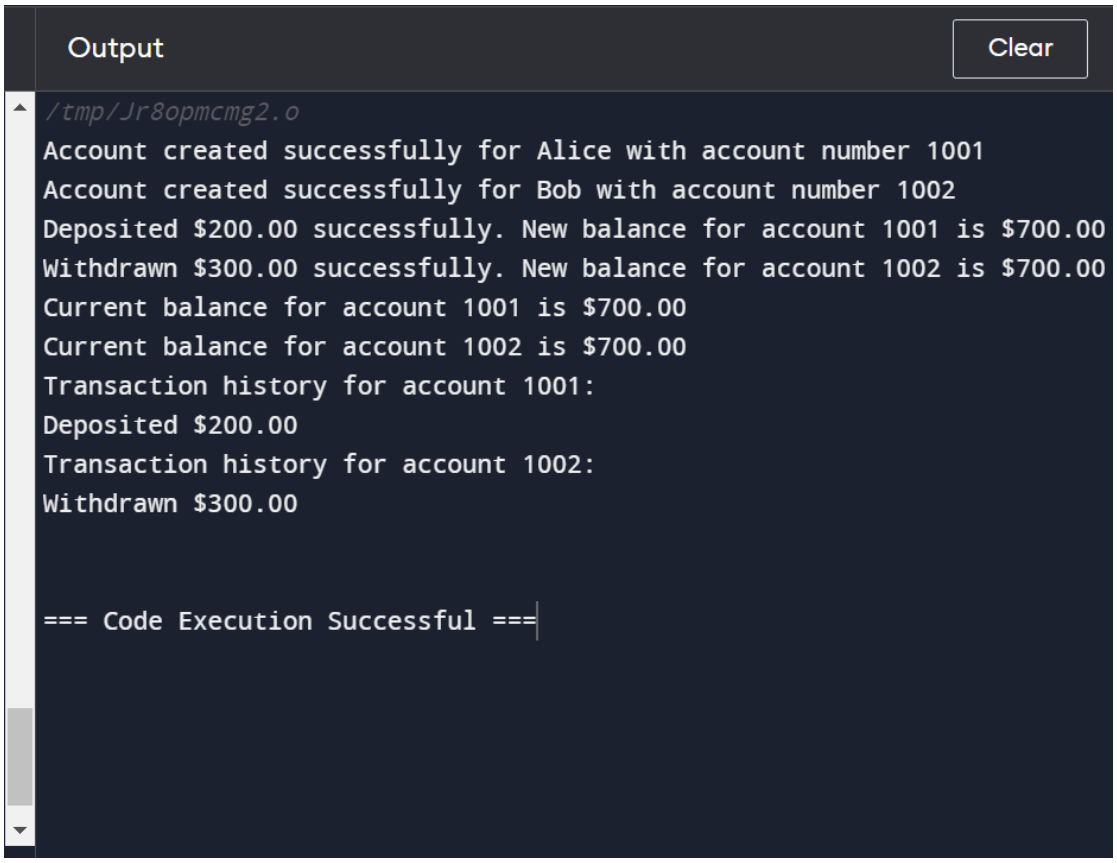
```
int main() {
    struct Bank bank = {0};  // Initialize the bank with zero accounts
    // Example usage
    create_account(&bank, 1001, "Alice", 500);
    create_account(&bank, 1002, "Bob", 1000);
    deposit(&bank, 1001, 200);
    withdraw(&bank, 1002, 300);
    display_balance(&bank, 1001);
    display_balance(&bank, 1002);
    display_transactions(&bank, 1001);
    display_transactions(&bank, 1002);
    return 0;
}
// Function to create a new account
void create_account(struct Bank *bank, int acc_num, char *name, float balance) {
    if (bank->num_accounts < MAX_ACCOUNTS) {
        bank->accounts[bank->num_accounts].acc_num = acc_num;
        strcpy(bank->accounts[bank->num_accounts].name, name);
        bank->accounts[bank->num_accounts].balance = balance;
        bank->accounts[bank->num_accounts].num_transactions = 0;
        printf("Account created successfully for %s with account number %d\n", name,
acc_num);
        bank->num_accounts++;
    } else {
```

```
        printf("Cannot create account. Maximum account limit reached.\n");
    }
}
// Function to deposit money into an account
void deposit(struct Bank *bank, int acc_num, float amount) {
    for (int i = 0; i < bank->num_accounts; i++) {
        if (bank->accounts[i].acc_num == acc_num) {
            bank->accounts[i].balance += amount;
            sprintf(bank->accounts[i].transactions[bank->accounts[i].num_transactions],
"Deposited $%.2f", amount);
            bank->accounts[i].num_transactions++;
            printf("Deposited $%.2f successfully. New balance for account %d is
$%.2f\n", amount, acc_num, bank->accounts[i].balance);
            return;
        }
    }
    printf("Account not found.\n");
}
// Function to withdraw money from an account
void withdraw(struct Bank *bank, int acc_num, float amount) {
    for (int i = 0; i < bank->num_accounts; i++) {
        if (bank->accounts[i].acc_num == acc_num) {
            if (bank->accounts[i].balance >= amount) {
                bank->accounts[i].balance -= amount;
```

```
            sprintf(bank->accounts[i].transactions[bank->accounts[i].num_transactions], "Withdrawn $%.2f", amount);
            bank->accounts[i].num_transactions++;
            printf("Withdrawn $%.2f successfully. New balance for account %d is $%.2f\n", amount, acc_num, bank->accounts[i].balance);
        } else {
            printf("Insufficient balance for account %d\n", acc_num);
        }
        return;
    }
  }
  printf("Account not found.\n");
}
// Function to display balance of an account
void display_balance(struct Bank *bank, int acc_num) {
  for (int i = 0; i < bank->num_accounts; i++) {
    if (bank->accounts[i].acc_num == acc_num) {
      printf("Current balance for account %d is $%.2f\n", acc_num, bank->accounts[i].balance);
      return;
    }
  }
  printf("Account not found.\n");
}
```

```
// Function to display transaction history of an account
void display_transactions(struct Bank *bank, int acc_num) {
    for (int i = 0; i < bank->num_accounts; i++) {
        if (bank->accounts[i].acc_num == acc_num) {
            printf("Transaction history for account %d:\n", acc_num);
            for (int j = 0; j < bank->accounts[i].num_transactions; j++) {
                printf("%s\n", bank->accounts[i].transactions[j]);
            }
            return;
        }
    }
    printf("Account not found.\n");
}
```

3. TEST CASES/ OUTPUT



CONCLUSION

After finishing the Bank Management System project using the C programming language, it is clear that this system is a useful tool for managing the transactions and operations of a bank. Users can do many things with the system, like set up accounts, deposit and withdraw money, and check their account balances. This project shows how powerful and flexible the C language is, as well as how it can handle complicated tasks in a clear and efficient way. Overall, putting the Bank Management System into place using C was a success, and it is expected to be a useful tool for managing how a bank works. This project is developed to nurture the needs of a user in a banking sector by embedding all the tasks of transactions taking place in a bank. Future version of this software will still be much enhanced than the current version Thus the Bank Management System it is developed and executed successfully.

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