

# **PROGRAMMING & PROBLEM SOLVING**

## **PROJECT REPORT**

# **C1 Bank & Management System**

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## **Objective :**

The C1 Bank & Management System is an application for keeping a singulars' record in a bank. In this venture, we have shown the working of a Bank's administration framework by covering the fundamental usefulness which:

- i) Withdraws money
- ii) Deposits money
- iii) Views Account Details

The project uses the C language for complete functionality.

## **Problem Definition :**

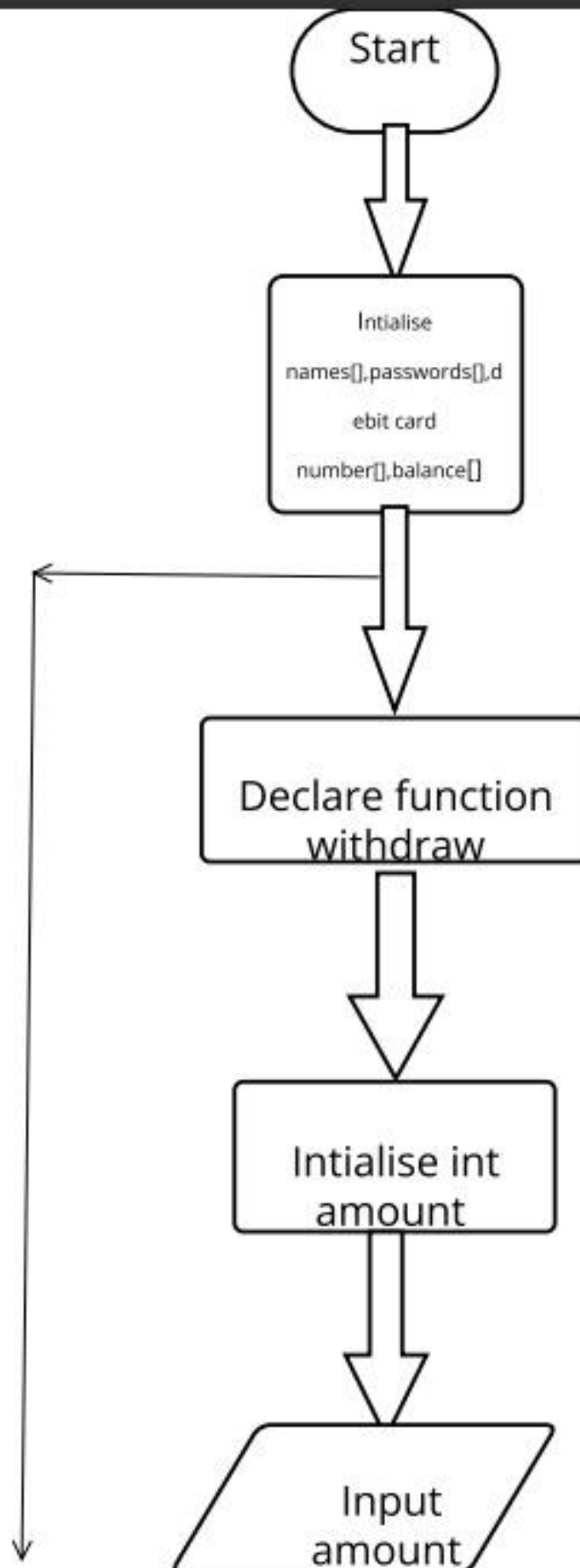
The given program helps the user with their day-to-day basic banking needs and manages their bank account to withdraw, deposit, and check cash in the account. Basic banking can be performed with ease when username, password, and debit card pin is entered and the user passes the security check.

First a user is asked to enter credentials, then they login to a menu to perform desired transaction out of the given options and to exit when done. Security features are also added to the program for safe and trustworthy experience.

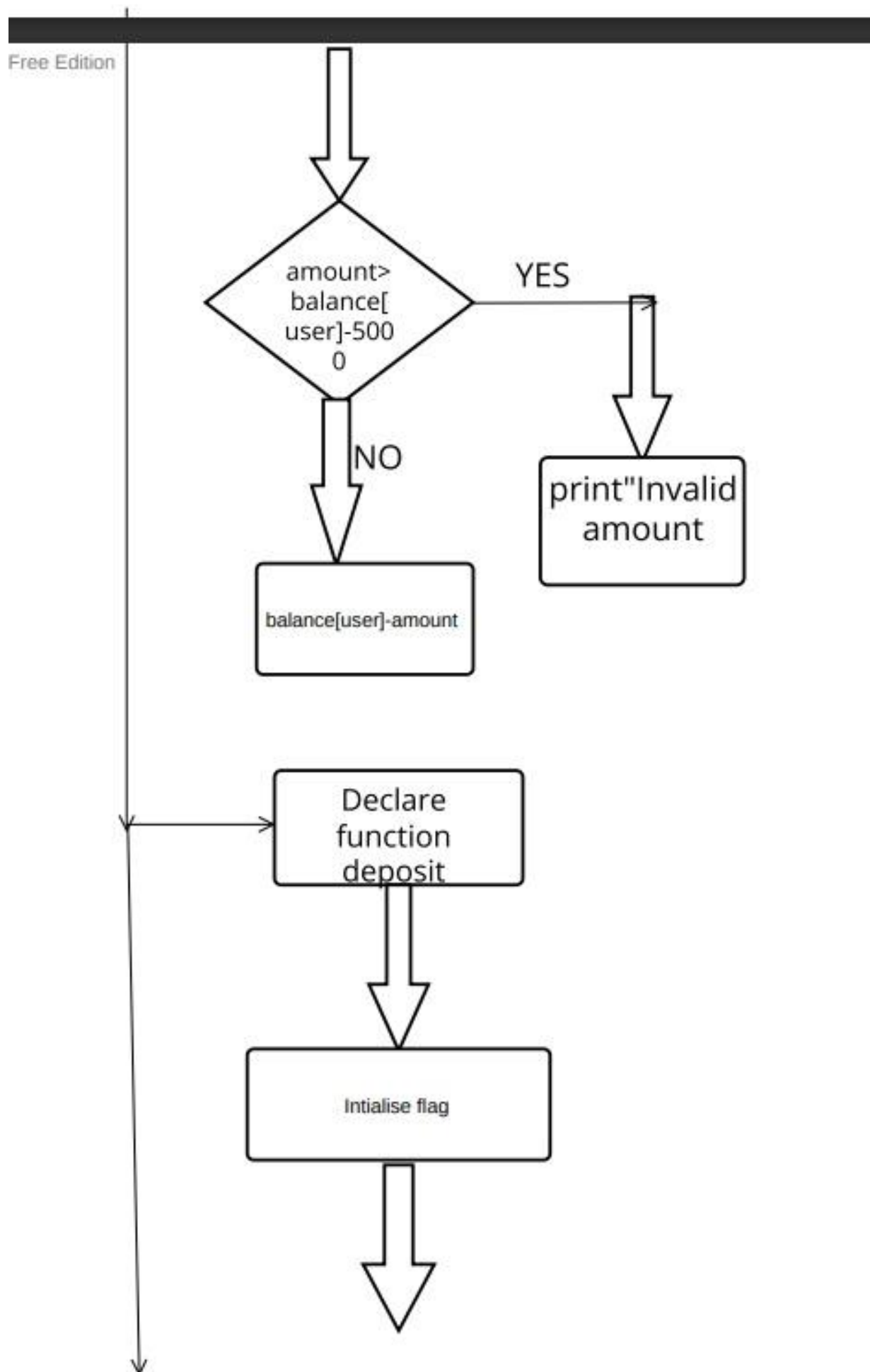
# Flowchart

# PPS Project Report C1 Bank Management System

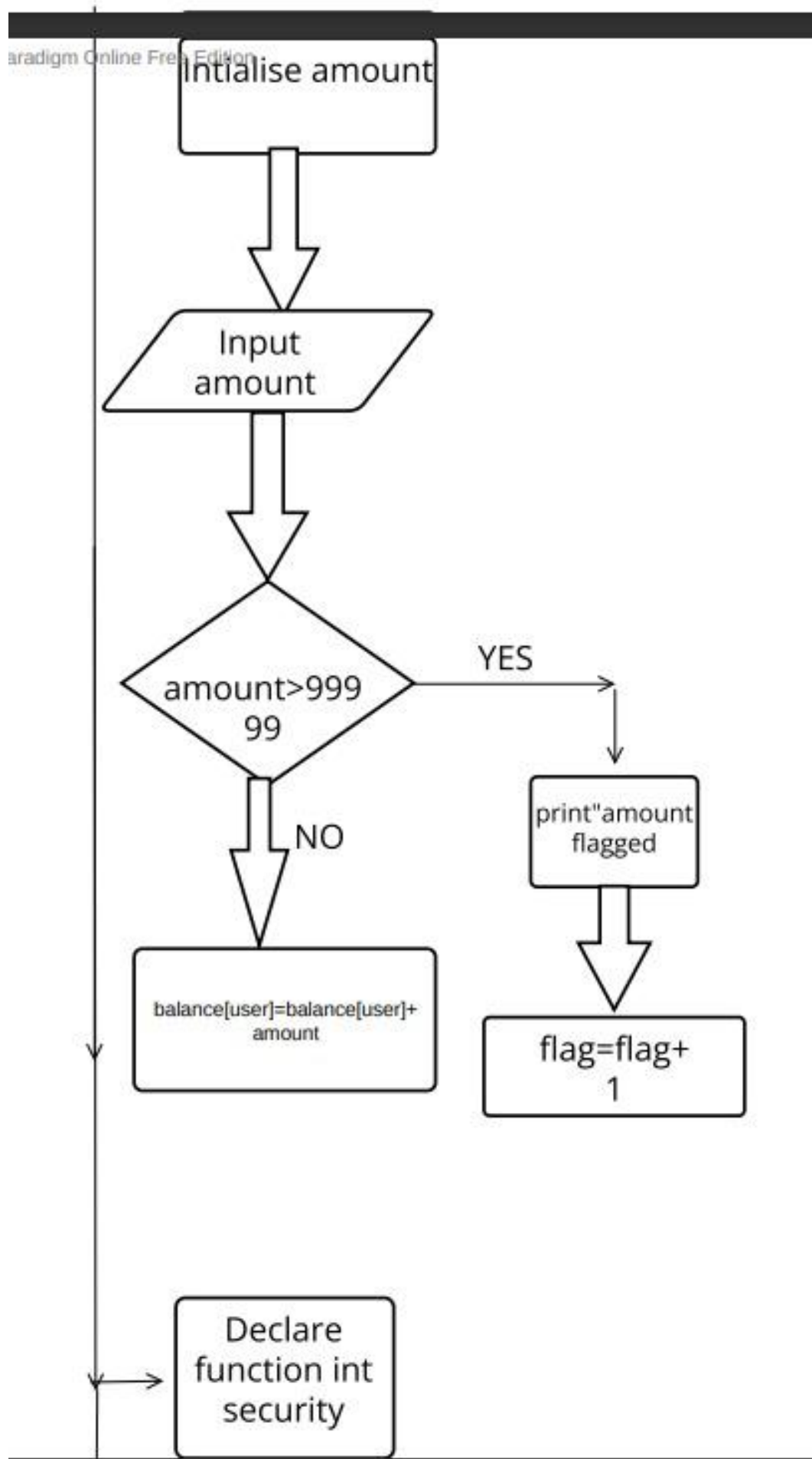
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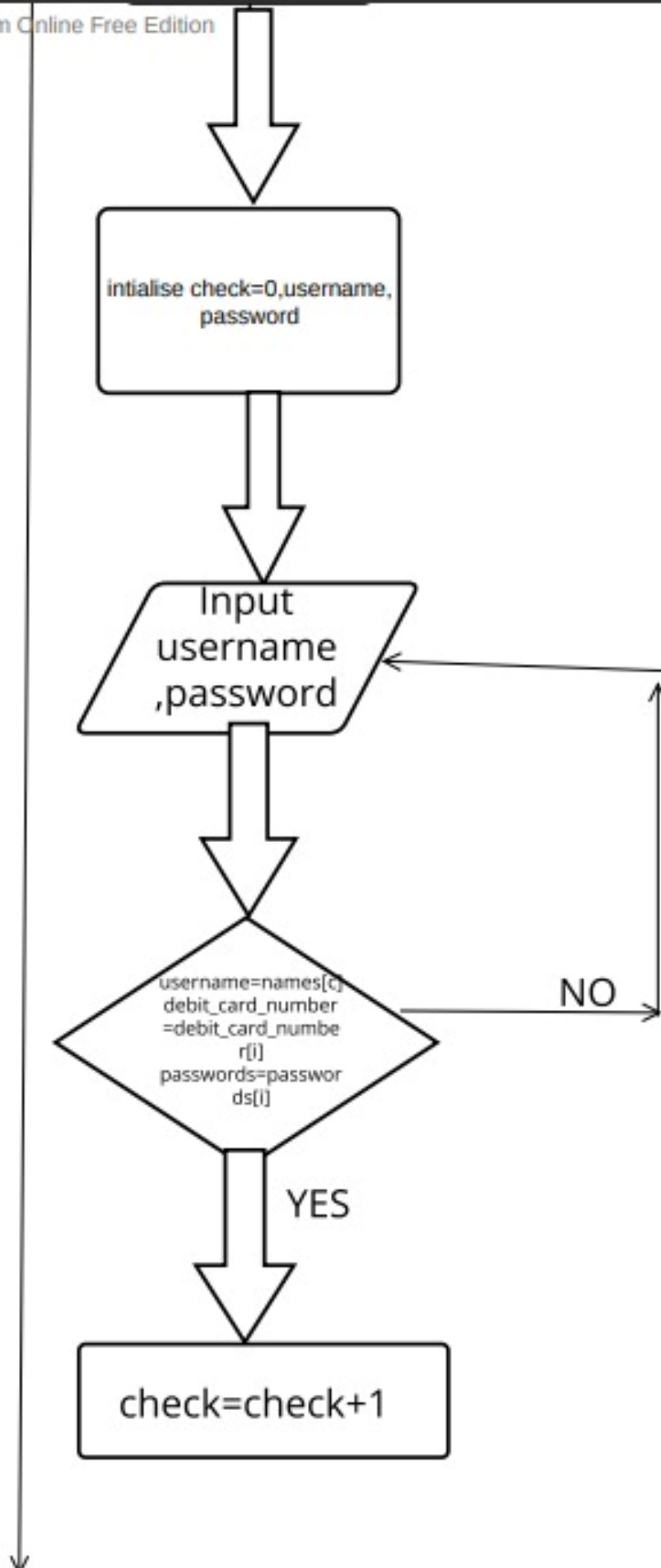


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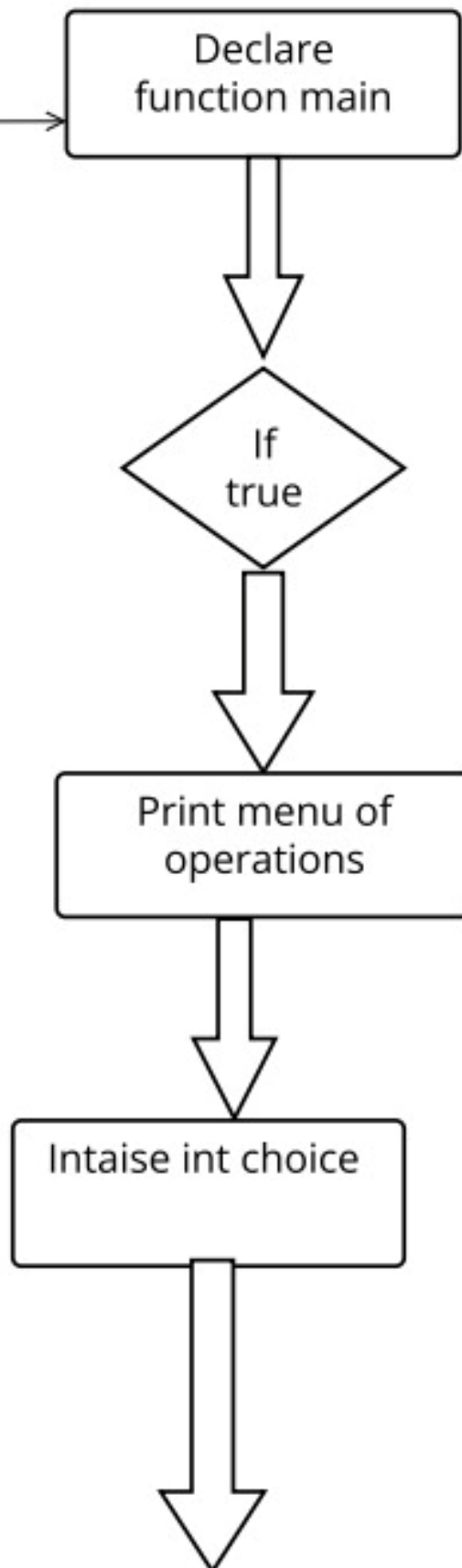
# PPS Project Report C1 Bank Management System

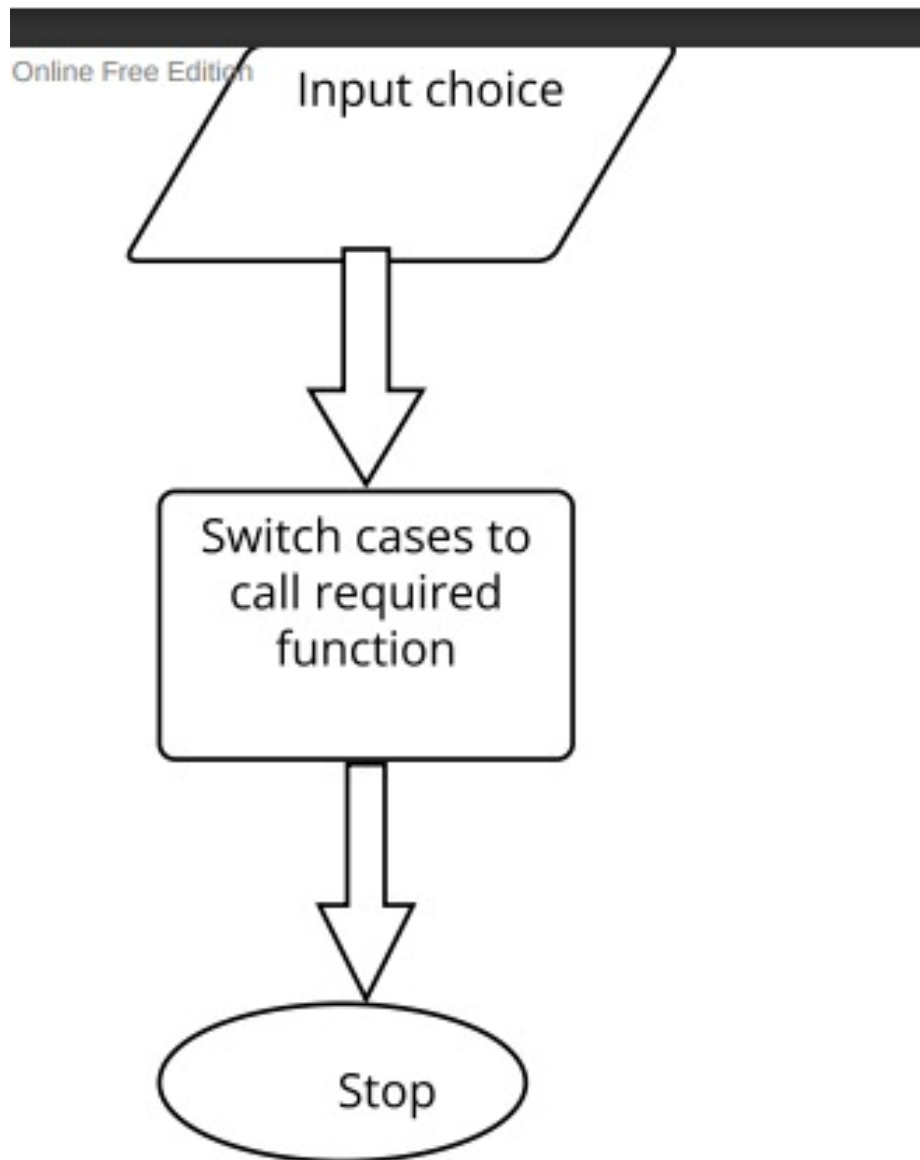
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## ALGORITHM

**Step 1** - Start

**Step 2** - Initialize names[ ], passwords[ ],  
debit\_card\_numbers[ ], and balance[ ]

**Step 3** - Declare a function void withdraw

Step 3.1 - If flag of User is greater than 3, print Credit transactions unavailable

Step 3.2 - Else i) Initialize and input amount

ii) If amount is greater than  
balance[user]-5000, then print “invalid  
amount”

iii) Else decrement balance[user] by  
amount

**Step 4** - Declare a function void deposit

Step 4.1 - If flag of User is greater than 3, print Debit transactions unavailable

Step 4.2 - Else i) Initialize and input amount

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- ii) If amount is greater than 99999, then print "The amount you are trying to deposit is higher than the usual amount." and "The debit transaction has been flagged.", then increment flag by 1
- iii) If flag of User is greater than 3, print "The Debit transaction was unsuccessful"
- iv) Else Increment balance[user] by amount

### **Step 5** - Declare a function void view\_details

Step 5.1 - Print name[user], debit\_card\_numbers[user], and balance[user]

### **Step 6** - Declare a function int security

Step 6.1 - Declare check = 0, username, debit\_card\_number and password

Step 6.2 - Input username, debit\_card\_number and password

Step 6.3 - Use For Loop

- i) If username = names[i], debit\_card\_number = debit\_card\_numbers[i] and password = passwords[i], increment check by 1
- ii) If check is equal to 3, break the loop

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Step 6.4 - If Check is less than 3, print "Invalid Username/Password/Debit Card Number"

Step 6.5 - Return -1

Step 6.6 - Else print "Successfully logged in" and Return i

### **Step 7** - Declare a function void main

Step 7.1 - Initialize cont

Step 7.2 - Call the function Security and assign the returned value to cont

Step 7.3 - If cont equals -1, exit(0)

Step 7.4 - Else run an infinite while loop

- i) Print a menu for operations using print statements, with one value for ending the program
- ii) Initialize and input int choice from the user
- iii) Use switch case to call required function depending upon the value of choice iv) If the default value is called, then print "invalid choice!"

### **Step 8** – Stop

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## Program in VS Code

```
Bank Management System > c1_bank.cpp > security()
1  #include <stdio.h>
2  #include <string.h>
3  #include <stdlib.h>
4
5  char names[10][100] = {"Anvit Pawar", "Anya Gupta", "Anushka Singh", "Pushkar Tuse", "Aditya Anand",
6  "Sangini Trivedi", "Bhavana Kumar", "Utkarsh Upadhyay", "Tapesh Das", "Rishi Maniktala"};
7  int passwords[10]={5915,5815,6489,3816,1895,9889,4826,4826,1568,1235},flag[10];
8  long long debit_card_numbers[10]={687942415726,917429365599,710573661154,971998449229,792087236336,
9  984068812506,175584159453,959305088852,959305088852,744717302642},
10 balance[10]={894418,8948,4589,489544,898489,89489,561598,589815,4898516,5918945};
11
12 void withdraw(int user)
13 {
14     if(flag[user]>3)
15         printf("Debit transactions unavailable\n\n");
16     else
17     {
18         int amount;
19         printf("Input the amount to be withdrawn: ");
20         scanf("%d",&amount);
21         if(amount > balance[user]-5000)
22             printf("Invalid amount\n\n");
23         else
24         {
25             balance[user] = balance[user] - amount;
26             printf("Rs. %d debited.\nNew balance: %ld\n\n", amount,balance[user]);
27         }
28     }
29 }
30
```

## PPS Project Report C1 Bank Management System

```
30
31 void deposit(int user)
32 {
33     if(flag[user]>3)
34         printf("Credit transactions unavailable\n\n");
35     else
36     {
37         int amount;
38         printf("Input the amount to be deposited: ");
39         scanf("%d",&amount);
40         if(amount > 99999)
41         {
42             printf("The amount you are trying to deposit is higher than the usual amount.\n");
43             printf("The debit transaction has been flagged.\n\n");
44             flag[user]++;
45         }
46         if(flag[user]>3)
47             printf("The Credit transaction was unsuccessful");
48         else
49         {
50             balance[user] = balance[user] + amount;
51             printf("Rs. %d Credited.\nNew balance: %ld\n\n", amount, balance[user]);
52         }
53     }
54 }
55
56 void view_details(int user)
57 {
58     long i;
59     printf("Printing details...\n\n");
60     for(i=0;i<=100000000;i++);
61     for(i=0;i<=100000000;i++);
62     printf("%s\n", names[user]);
63     printf("%ld\n", debit_card_numbers[user]);
64     printf("%ld\n\n", balance[user]);
65 }
66
```

## PPS Project Report C1 Bank Management System

```
67 int security()  
68 {  
69     int check = 0, i;  
70     char username[100];  
71     long int debit_card_number;  
72     int password;  
73     printf("\n\n\n Welcome to C1 Bank\n\n");  
74     printf("Input Username: ");  
75     scanf("%[^\n]s",&username);  
76     printf("Input Debit Card Number: ");  
77     scanf("%ld", &debit_card_number);  
78     printf("Input Password: ");  
79     scanf("%d", &password);  
80     for(i=0;i<10;i++)  
81     {  
82         if(strcmp(username,names[i]) == 0)  
83             check++;  
84         if(password == passwords[i])  
85             check++;  
86         if(debit_card_number == debit_card_numbers[i])  
87             check++;  
88         if(check==3)  
89             break;  
90         else  
91             check = 0;  
92     }  
93     if(check<3)  
94     {  
95         printf("Invalid Username/Password/Debit Card Number");  
96         return -1;  
97     }  
98     else  
99     {  
100         printf("Successfully logged in\n\n");  
101         return i;  
102     }  
103 }  
104
```



## PPS Project Report C1 Bank Management System

```
105
106 void main()
107 {
108     int cont = security();
109     if(cont == -1)
110         exit(0);
111     else
112     while(1)
113     {
114         printf("-----Menu-----\n");
115         printf("1. Withdraw Amount\n");
116         printf("2. Deposit Amount\n");
117         printf("3. Check Details\n");
118         printf("4. Log out and Exit\n");
119         printf("-----\n");
120         printf("\nEnter your choice: ");
121         int choice;
122         scanf("%d", &choice);
123
124         switch(choice)
125         {
126             case 1:
127                 withdraw(cont);
128                 break;
129             case 2:
130                 deposit(cont);
131                 break;
132             case 3:
133                 view_details(cont);
134                 break;
135             case 4:
136                 printf("Thank You, Hope to see you again next time!");
137                 exit(0);
138                 break;
139             default:
140                 printf("Invalid Choice!\n\n");
141                 int i;
142                 for(i=0;i<=100000000;i++);
143                 for(i=0;i<=100000000;i++);
144                 break;
145         }
146     }
147 }
```

## Output :

```
Welcome to C1 Bank

Input Username: Anvit Pawar
Input Debit Card Number: 687942415726
Input Password: 5915
Successfully logged in

-----Menu-----
1. Withdraw Amount
2. Deposit Amount
3. Check Details
4. Log out and Exit
-----

Enter your choice: 1
Input the amount to be withdrawn: 2000
Rs. 2000 debited.
New balance: 892418
```

## PPS Project Report C1 Bank Management System

```
-----Menu-----
1. Withdraw Amount
2. Deposit Amount
3. Check Details
4. Log out and Exit
-----

Enter your choice: 2
Input the amount to be deposited: 3000
Rs. 3000 Credited.
New balance: 895418

-----Menu-----
1. Withdraw Amount
2. Deposit Amount
3. Check Details
4. Log out and Exit
-----

Enter your choice: 3
Printing details...

Anvit Pawar
687942415726
895418
```

## PPS Project Report C1 Bank Management System

```
Anvit Pawar  
687942415726  
895418
```

```
-----Menu-----
```

1. Withdraw Amount
2. Deposit Amount
3. Check Details
4. Log out and Exit

```
-----
```

```
Enter your choice: 4
```

```
Thank You, Hope to see you again next time!
```