

Q: Write a program in C++ to represent a Bank Account.

Data members:

- Account number
- Name of the depositor
- Type of account
- Balance amount in the account

Member functions:

- To assign initial values
- To deposit an amount
- To withdraw an amount after checking the balance
- To display name and balance of a single customer if account number is entered through
- the keyboard
- To display the details of all customers
- Sort the customers according to their balance

Write a main program to test the class. Your program must be able to handle at least 10 customers.

Ans:

Source Code:

```
#include<iostream>
```

```
#include<string>
```

```
#define M 10
```

```
using namespace std;
```

```

class Account{
    private:
        long long int account_number;
        string name;
        string account_type;
        int balance;

    public:
        void putDetails(){
            cout<<"Enter Account Number:\t";
            cin>>account_number;
            cin.ignore();
            cout<<"Enter Name of depositor:\t";
            getline(cin, name);
            cout<<"Enter Type of Account(Current, Saving, Salary):\t";
            getline(cin, account_type);
            cout<<"Enter Balance amount in the account:\t";
            cin>>balance;
        }

        void deposit(int amt){
            balance=balance+amt;
            cout<<"Amount deposited: "<<amt<<". Total balance: "<<balance<<endl;
        }

        void withdraw(int amt){
            if(balance<amt) cout<<"Error: please input Valid amount.\nYour current balance is:
"<<balance<<endl;
            else{

```

```

        balance=balance-amt;
        cout<<"Amount withdraw: "<<amt<<". Total balance: "<<balance<<endl;
    }
}

void display(){
    cout<<"Name: "<<name<<".\nAccount Type: "<<account_type<<".\nBalance:
"<<balance<<endl;
}

int getbalance(){
    return balance;
}

long long int getAccNum(){
    return account_number;
}

};

```

```

int findAcc(Account arr[],long long int num) {
    for(int i=0;i<M;i++) {
        if(arr[i].getAccNum()==num) return i;
    }
    return -1;
}

```

```

int main(){
    Account arr[M];
    int n;
    long long int accNum;
    for(int i=0;i<M;i++){
        cout<<"Enter Details of Account "<<i+1<<endl;

```

```

        arr[i].putDetails();
    }
do{
    cout<<"Enter 1 to Deposit. \nEnter 2 to Withdraw. \nEnter 3 to see your Details.\nEnter 0
to exit.\n";
    cin>>n;
    if(n){
        cout<<"Enter Account Number:\t";
        cin>>accNum;
    }
    int index=findAcc(arr,accNum),amt;
    if(index!=-1){
        switch (n)
        {
        case 1:
            cout<<"Enter Amount to Deposit:\t";
            cin>>amt;
            cout<<endl;
            arr[index].deposit amt;
            break;
        case 2:
            cout<<"Enter Amount to withdraw:\t";
            cin>>amt;
            cout<<endl;
            arr[index].withdraw amt;
            break;
        case 3:
            cout<<endl;
            arr[index].display();

```

```

        break;
    default:
        cout<<"Enter valid input or 0 to Exit\n";
        break;
    }
}
else if(index==-1){
    cout<<"\nError: no account found.\n";
}
}while(n!=0);

cout<<"Enter 1 to see all account details in sorted order\nEnter 2 to see all details in
unsorted order\n";

cin>>n;

if(n==1){
    int i,j;
    for(i=0;i<M-1;i++){
        for(j=0;j<M-i-1;j++){
            if(arr[j].getbalance()>arr[j+1].getbalance()){
                Account temp=arr[j];
                arr[j]=arr[j+1];
                arr[j+1]=temp;
            }
        }
    }

    cout<<"Showing Details in unsorted order:\n";
    cout<<"_____ "<<endl;
    for(int i=0;i<M;i++){
        arr[i].display();
        cout<<"_____ "<<endl;
    }
}

```

```

}else{

    cout<<"Showing Details in unsorted order:\n";

    cout<<"_____ "<<endl;

    for(int i=0;i<M;i++){

        arr[i].display();

        cout<<"_____ "<<endl;

    }

}

return 0;

}

```

Output:

```

D:\sem-5\oop_Lab\4.exe
Enter Details of Account 1
Enter Account Number: 1001
Enter Name of depositor: Tanmay Vig
Enter Type of Account(Current, Saving, Salary): Current
Enter Balance amount in the account: 123123123
Enter Details of Account 2
Enter Account Number: 1002
Enter Name of depositor: Ruben Singh
Enter Type of Account(Current, Saving, Salary): Saving
Enter Balance amount in the account: 12312312
Enter Details of Account 3
Enter Account Number: 1003
Enter Name of depositor: Parmeesh Singh
Enter Type of Account(Current, Saving, Salary): Salary
Enter Balance amount in the account: 1231231
Enter Details of Account 4
Enter Account Number: 1004
Enter Name of depositor: Paras Dang
Enter Type of Account(Current, Saving, Salary): Current
Enter Balance amount in the account: 123123
Enter Details of Account 5
Enter Account Number: 1005
Enter Name of depositor: Bhargav Bajaj
Enter Type of Account(Current, Saving, Salary): Saving
Enter Balance amount in the account: 12312
Enter Details of Account 6
Enter Account Number: 1006
Enter Name of depositor: Aryan Bedi
Enter Type of Account(Current, Saving, Salary): Salary
Enter Balance amount in the account: 1231
Enter Details of Account 7
Enter Account Number: 1007
Enter Name of depositor: Boby Sachdeva
Enter Type of Account(Current, Saving, Salary): Current
Enter Balance amount in the account: 123
Enter Details of Account 8
Enter Account Number: 1008
Enter Name of depositor: Mridul Bhatia
Enter Type of Account(Current, Saving, Salary): Saving
Enter Balance amount in the account: 10000
Enter Details of Account 9
Enter Account Number: 1009
Enter Name of depositor: Prabhmeet Singh
Enter Type of Account(Current, Saving, Salary): Salary
Enter Balance amount in the account: 12122
Enter Details of Account 10
Enter Account Number: 1010
Enter Name of depositor: Garvit Ahuja
Enter Type of Account(Current, Saving, Salary): Current
Enter Balance amount in the account: 102031

```

```
D:\sem-5\oop_lab\4.exe
Enter Name of depositor: Garvit Ahuja
Enter Type of Account(Current, Saving, Salary): Current
Enter Balance amount in the account: 102031
Enter 1 to Deposit.
Enter 2 to Withdraw.
Enter 3 to see your Details.
Enter 0 to exit.
1
Enter Account Number: 1001
Enter Amount to Deposite: 500000
Amount deposited: 500000. Total balance: 123623123
Enter 1 to Deposit.
Enter 2 to Withdraw.
Enter 3 to see your Details.
Enter 0 to exit.
2
Enter Account Number: 1010
Enter Amount to withdraw: 1000
Amount withdraw: 1000. Total balance: 101031
Enter 1 to Deposit.
Enter 2 to Withdraw.
Enter 3 to see your Details.
Enter 0 to exit.
3
Enter Account Number: 1008
Name: Mridul Bhatia.
Account Type: Saving.
Balance: 10000
Enter 1 to Deposit.
Enter 2 to Withdraw.
Enter 3 to see your Details.
Enter 0 to exit.
0
Enter valid input or 0 to Exit
Enter 1 to see all account details in sorted order
Enter 2 to see all details in unsorted order
1
Showing Details in unsorted order:
Name: Bobby Sachdeva.
Account Type: Current.
Balance: 123
Name: Aryan Bedi.
Account Type: Salary.
Balance: 1231
```

```
D:\sem-5\oop_lab\4.exe
Showing Details in unsorted order:
Name: Bobby Sachdeva.
Account Type: Current.
Balance: 123
Name: Aryan Bedi.
Account Type: Salary.
Balance: 1231
Name: Mridul Bhatia.
Account Type: Saving.
Balance: 10000
Name: Prabhmeet Singh.
Account Type: Salary.
Balance: 12122
Name: Bhargav Bajaj.
Account Type: Saving.
Balance: 12312
Name: Garvit Ahuja.
Account Type: Current.
Balance: 101031
Name: Paras Dang.
Account Type: Current.
Balance: 123123
Name: Parmeesh Singh.
Account Type: Salary.
Balance: 1231231
Name: Ruben Singh.
Account Type: Saving.
Balance: 12312312
Name: Tanmay Vig.
Account Type: Current.
Balance: 123623123
-----
Process exited after 359.6 seconds with return value 0
Press any key to continue . . .
```