

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 deposite(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 Deposite:\t";  
                cin>>amt;  
                cout<<endl;  
                arr[index].deposite(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: Boby 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: Boby 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: 1212

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 . . .
```