

1. PROGRAM 10 INSTRUCTIONS, CS101, PROF. LOFTIN

Write a program to manage bank accounts. Each account has an integer id and a current balance (`double`).

The input consists of lines containing the account id and the amount to be posted to the account. The output is a list of accounts with balances.

Thus, if the input is

```
108 100.75
109 -50
108 40
110 20
109 -30
```

the output should be

```
108 140.75
109 -80.0
110 20.0
```

2. THE CLASSES

You must implement two classes

- `AC`: this holds an individual account
- `ACS`: this holds an array of `AC`. You may assume there are at most 100 accounts.

Here is an outline for class ACS:

```
public class ACS{
    // Instance variables
    private AC[] data; // array of AC
    private int n;     // number of accounts actually in use
    // Constructor
    public ACS(){
        // Fill in here.
    }
    // Mutator
    public void update (int id, double amount){
        // Fill in here.
    }
    // String form
    public String toString(){
        // Fill in here.
    }
    // Locate in array; returns array index of the account
    // numbered id (and returns -1 if the account number id
    // is not in use);
    private int find(int id){
        for (int i=0; i<n; i++)
            if (data[i].getId() == id)
                return i;
        return -1;
    }
}
```

And here is an outline for class AC:

```
// class for a single account

public class AC{
    // Instance variables
    private int id;
    private double balance;
    // Constructor
    public AC (int i, double b){
        // Fill in here
    }
    // Accessor
    public int getId(){
        // Fill in here
    }
    // Mutator
    public void update (double amount){
        // Fill in here
    }
    // String form
    public String toString(){
        // Fill in here
    }
}
```

3. THE DRIVER CLASS

Use this driver class as is.

```
import java.util.Scanner;
public class Bank{
    public static void main (String[] args){
        Scanner scan = new Scanner (System.in);
        ACS acs = new ACS();
        while (scan.hasNext()){
            int id = scan.nextInt();
            double amount = scan.nextDouble();
            acs.update(id,amount);
        }
        System.out.println(acs);
    }
}
```

4. HOW TO TURN IT IN

Submit your two files `ACS.java` and `AC.java` into Blackboard. When you submit them, use these file names, not your own name (so I can tell which is the `ACS.java` and which is the `AC.java`).