Coding Problems for practice

1) Java Arraylist

Input Format

The first line has an integer . In each of the next lines there will be an integer denoting number of integers on that line and then there will be space-separated integers. In the next line there will be an integer denoting number of queries. Each query will consist of two integers and .

Constraints

1<=n<=20000

0<=d<=50000

1<=q<=1000

1<=x<=n

Each number will fit in signed integer.
Total number of integers in lines will not cross 100000.

Output Format

In each line, output the number located in position of line. If there is no such position, just print "ERROR!"

Sample Input

```
5
5 41 77 74 22 44
1 12
4 37 34 36 52
0
3 20 22 33
5
1 3
3 4
3 1
4 3
5 5
```

Sample Output

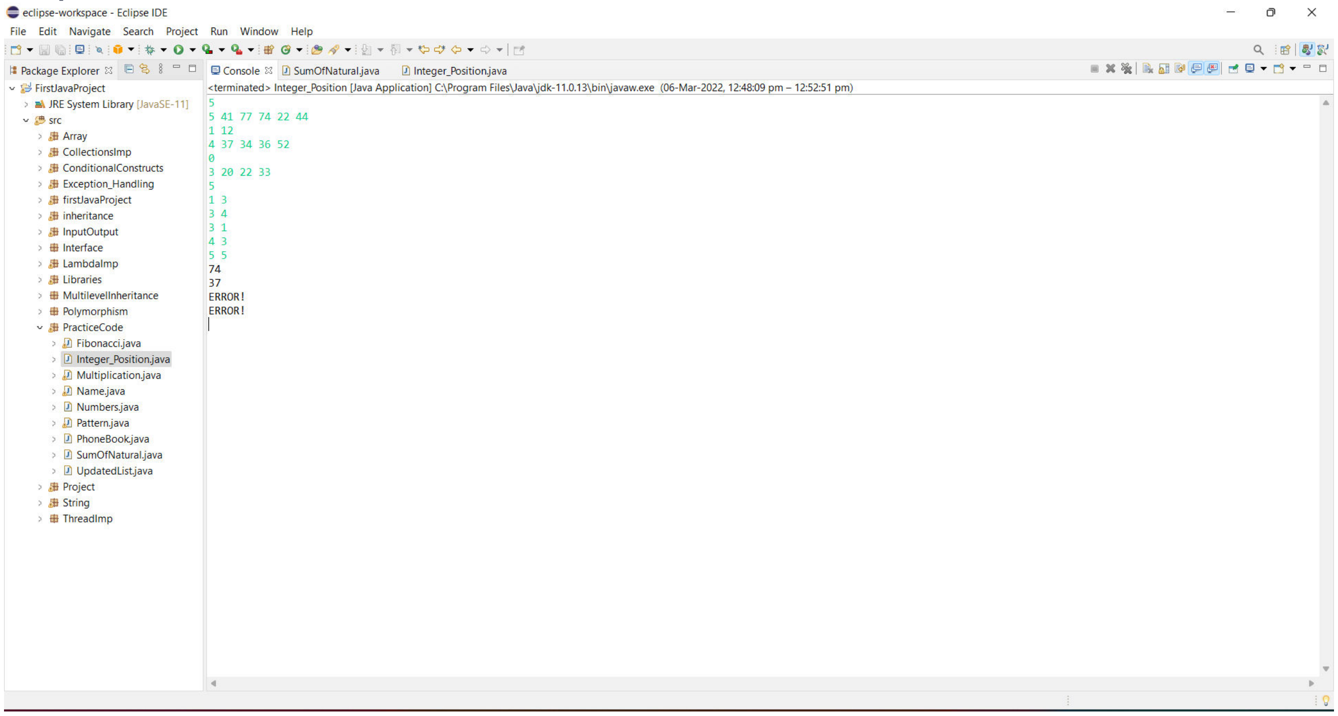
```
74
```

```
52
37
ERROR!
ERROR!
```

Answer:

```
package PracticeCode;
import java.util.ArrayList;
import java.util.HashMap;
import java.util.Iterator;
import java.util.Map;
import java.util.Map.Entry;
import java.util.Scanner;
public class Integer_Position {

      public static void main(String[] args) {
            // TODO Auto-generated method stub
            Scanner sc = new Scanner(System.in);

            int n = sc.nextInt();
            ArrayList<ArrayList<Integer>> rows = new ArrayList<>();

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

                  int d = sc.nextInt();

                  ArrayList<Integer> row = new ArrayList<>();
                  if(d!=0) {
                  for (int j = 0; j < d; j++) {

                        int val = sc.nextInt();
                        row.add(val);
                  }}
                  else {
                        row.add(null);
                  }

                  rows.add(row);
            }

            int q = sc.nextInt();

            HashMap<Integer, Integer> query = new HashMap<>();
            for (int i = 0; i < q; i++) {

                  int x = sc.nextInt();
                  int y = sc.nextInt();
                  query.put(x,y);
            }
            sc.close();
            Iterator<Entry<Integer, Integer>> it = query.entrySet().iterator();
            while(it.hasNext())
            {
                  Map.Entry<Integer, Integer> set = (Map.Entry<Integer, Integer>)
it.next();

                  try {
                        System.out.println(rows.get(set.getKey() -
1).get(set.getValue() - 1));
                  }
                  catch (IndexOutOfBoundsException e) {
                        System.out.println("ERROR!");
                  }

            }

      }

}
```

Output:



<terminated> Integer_Position [Java Application] C:\Program Files\Java\jdk-11.0.13\bin\javaw.exe (06-Mar-2022, 12:48:09 pm – 12:52:51 pm)

```
5
5 41 77 74 22 44
1 12
4 37 34 36 52
0
3 20 22 33
5
1 3
3 4
3 1
4 3
5 5
74
37
ERROR!
ERROR!
```

2) Java List

Input Format

The first line contains an integer, (the initial number of elements in).
The second line contains space-separated integers describing .
The third line contains an integer, (the number of queries).
The subsequent lines describe the queries, and each query is described over two lines:

- If the first line of a query contains the String **Insert**, then the second line contains two space separated integers , and the value must be inserted into at index .
- If the first line of a query contains the String **Delete**, then the second line contains index , whose element must be deleted from .

Constraints

- 1<=N<=4000
- 1<=Q<=4000
- Each element in is a *32-bit integer*.

Output Format

Print the updated list as a single line of space-separated integers.

Sample Input

```
5
12 0 1 78 12
2
Insert
5 23
Delete
0
```

Sample Output

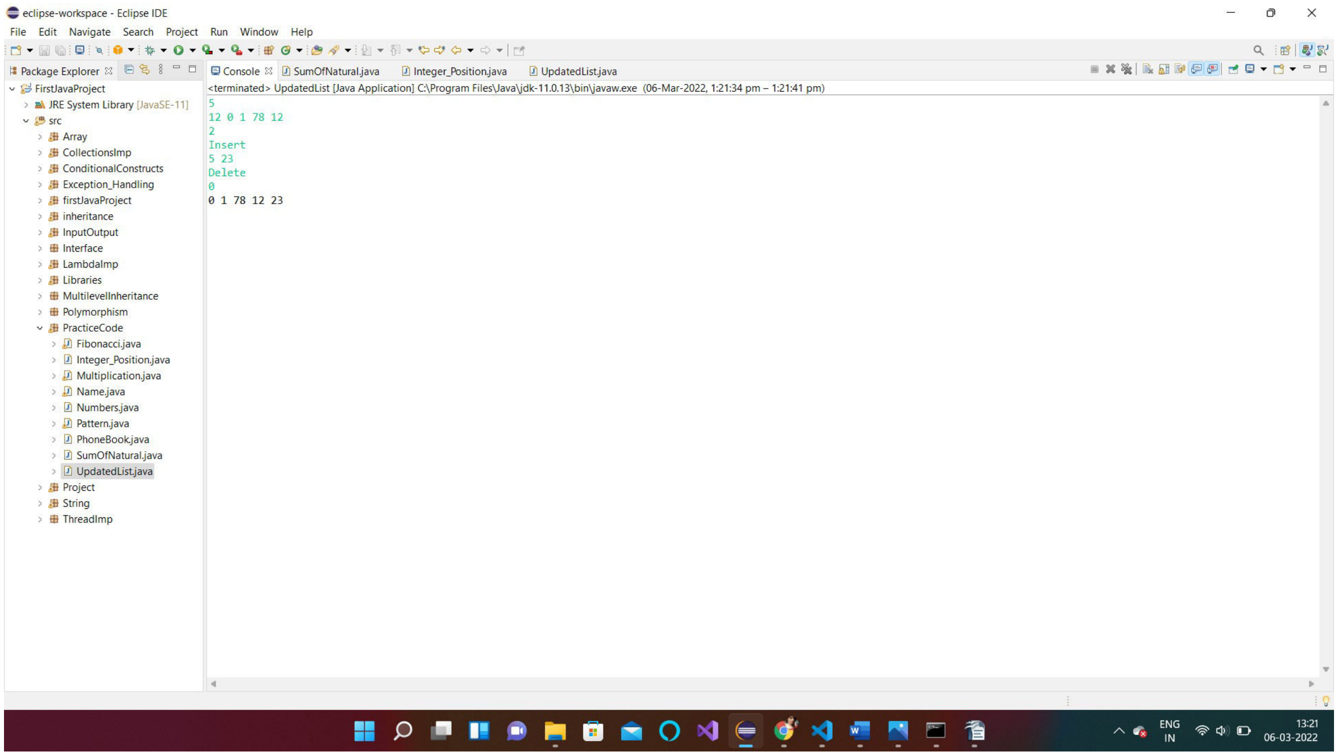
```
0 1 78 12 23
```

Answer:

```
package PracticeCode;
import java.util.ArrayList;
import java.util.List;
import java.util.Scanner;

public class UpdatedList {

      public static void main(String[] args) {
            // TODO Auto-generated method stub
            Scanner sc = new Scanner(System.in);
            List<Integer> newlist = new ArrayList<>();
            int n = sc.nextInt();
            for (int i = 0; i < n; i++) {
```

```
            int val = sc.nextInt();
            newlist.add(val);
        }

        int query = sc.nextInt();

        for (int j = 0; j < query; j++) {
            String str = sc.next();

            if (str.equals("Insert")) {
                int x = sc.nextInt();
                int y = sc.nextInt();
                newlist.add(x, y);
            }

            if (str.equals("Delete")) {
                int d = sc.nextInt();
                newlist.remove(d);
            }
        }
        sc.close();

        for (Integer integer : newlist) {
            System.out.print(integer+" ");
        }

    }

}
```

Output:



```
<terminated> UpdatedList [Java Application] C:\Program Files\Java\jdk-11.0.13\bin\javaw.exe (06-Mar-2022, 1:21:34 pm – 1:21:41 pm)
5
12 0 1 78 12
2
Insert
5 23
Delete
0
0 1 78 12 23
```

3) Java Map

You are given a phone book that consists of people's names and their phone number. After that you will be given some person's name as query. For each query, print the phone number of that person.

Input Format

The first line will have an integer denoting the number of entries in the phone book. Each entry consists of two lines: a name and the corresponding phone number.

After these, there will be some queries. Each query will contain a person's name. Read the queries until end-of-file.

Constraints:
A person's name consists of only lower-case English letters and it may be in the format 'first-name last-name' or in the format 'first-name'. Each phone number has exactly 8 digits without any leading zeros.

1<=n<=100000

1<=Query<=100000

Output Format

For each case, print "Not found" if the person has no entry in the phone book. Otherwise, print the person's name and phone number. See sample output for the exact format.

To make the problem easier, we provided a portion of the code in the editor. You can either complete that code or write completely on your own.

Sample Input

```
3
uncle sam
99912222
tom
11122222
harry
12299933
uncle sam
uncle tom
harry
```

Sample Output

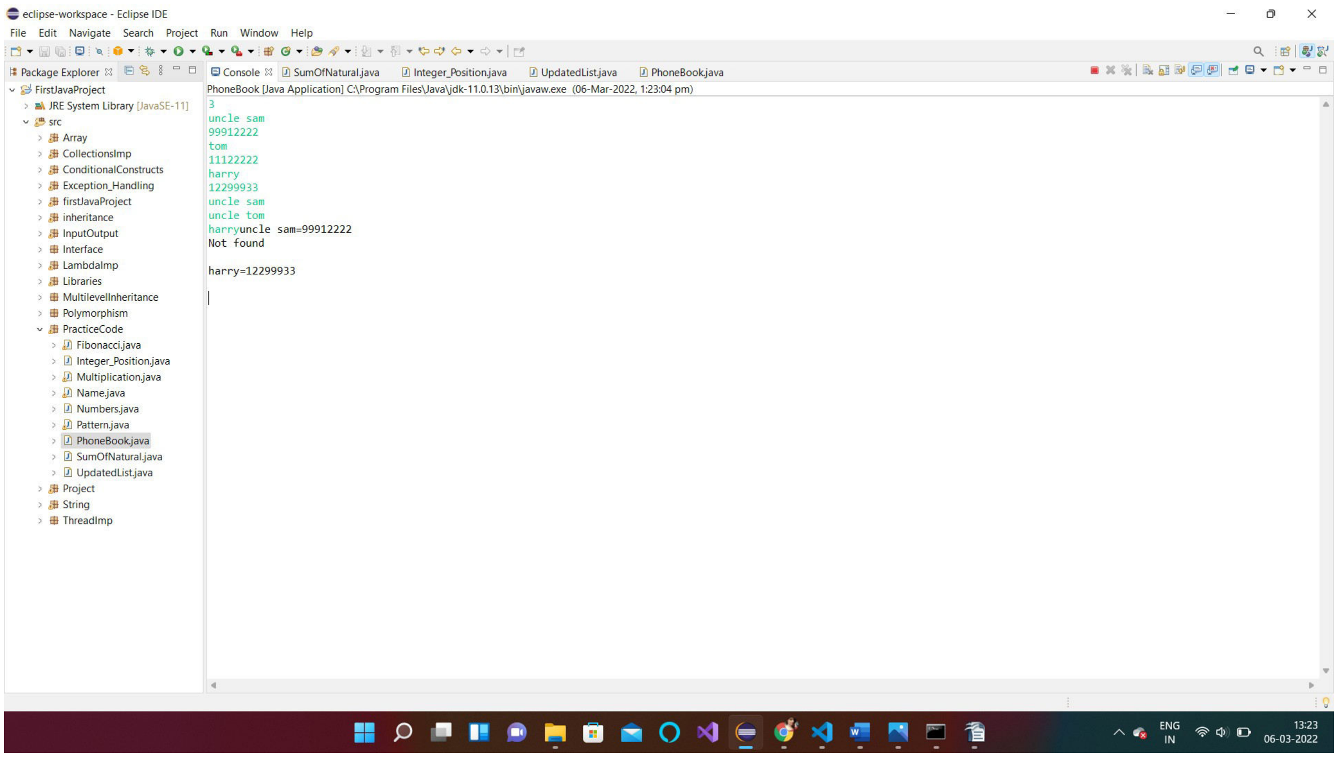
```
uncle sam=99912222
Not found
harry=12299933
```

Answer:

```
package PracticeCode;
import java.util.HashMap;
import java.util.Scanner;

public class PhoneBook {

	public static void main(String[] args) {
		// TODO Auto-generated method stub
		HashMap<String, Integer> hash = new HashMap<>();
		Scanner sc = new Scanner(System.in);
		int n = sc.nextInt();
		sc.nextLine();
		for (int i = 0; i < n; i++) {
			String name = sc.nextLine();
			int phone = sc.nextInt();
			sc.nextLine();
			hash.put(name, phone);
		}
		while (sc.hasNext()) {
```

```
                String s = sc.nextLine();
                try {
                        int out = hash.get(s);
                        System.out.println(s + "=" + out);
                } catch (Exception e) {
                        System.out.println("Not found");
                }
        }
        sc.close();

    }

}
```

Output:



PhoneBook [Java Application] C:\Program Files\Java\jdk-11.0.13\bin\javaw.exe (06-Mar-2022, 1:23:04 pm)

```
3
uncle sam
99912222
tom
11122222
harry
12299933
uncle sam
uncle tom
harryuncle sam=99912222
Not found

harry=12299933
```