Employee badge access

We are working on a security system for a badged-access room in our company's building. Given an ordered list of employees who used their badge to enter or exit the room, write a function that returns two collections:

1. All employees who didn't use their badge while exiting the room – they recorded an enter without a matching exit.

2. All employees who didn't use their badge while entering the room – they recorded an exit without a matching enter.

Write the function find_mismatched_entries(badge_records)

Expected output: ["Paul", "Curtis"], ["Martha"]

Solution:

```
import java.io.*;
import java.util.*;

class Solution {
	public static void main(String[] args) {
		String badgeRecords[][] = new String[][] { { "Martha", "exit" }, { "Paul",
"enter" }, { "Martha", "enter" },
				{ "Martha", "exit" }, { "Jennifer", "enter" }, { "Paul",
"enter" }, { "Curtis", "enter" },
				{ "Paul", "exit" }, { "Martha", "enter" }, { "Martha", "exit"
}, { "Jennifer", "exit" } };

		String[][] badgeRecords2 = new String[][] { { "Paul", "1355" }, { "Jennifer",
"1910" }, { "John", "830" },
				{ "Paul", "1315" }, { "John", "835" }, { "Paul", "1405" }, {
"Paul", "1630" }, { "John", "855" },
				{ "John", "930" }, { "John", "915" }, { "Jennifer", "1335" }, {
"Jennifer", "730" },
				{ "John", "1630" }, };

		List<List<String>> res = new ArrayList<>();
		res = getEmp(badgeRecords);
		System.out.println("Entered");
		for (String s : res.get(0)) {
			System.out.println(s);
		}
		System.out.println("Exited");
		for (String s : res.get(1)) {
			System.out.println(s);
		}

	}

	public static List<List<String>> getEmp(String badgeRecords[][]) {
		List<List<String>> output = new ArrayList<>();
		List<String> enter = new ArrayList<>();
		List<String> exit = new ArrayList<>();
```

```
                HashSet<String> hs = new HashSet<>();

                for (String[] ip : badgeRecords) {
                        if (ip[1].equals("exit")) {
                                if (hs.contains(ip[0]))
                                        hs.remove(ip[0]);
                                else if (!hs.contains(ip[0]) && !exit.contains(ip[0]))
                                        exit.add(ip[0]);
                        }
                        if (ip[1].equals("enter")) {
                                if (hs.contains(ip[0])) {
                                        if (!enter.contains(ip[0]))
                                                enter.add(ip[0]);
                                } else
                                        hs.add(ip[0]);
                        }
                }
                for (String s : hs)
                        if (!enter.contains(s))
                                enter.add(s);
                output.add(enter);
                output.add(exit);
                return output;
        }
}
```