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:

```java
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<>();
```

```java
        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;
    }
}
```