Problem Name: My Phonebook

In this problem, you are given a phonebook having K (1<=K<=1000) entries. i^{th} entry of the phonebook will consist of two entities, name (N_i, 1<= $|N_i|$<=100) and phone number (P_i). N_i will consist of English uppercase and lowercase letters along with spaces. P_i will consist of digits along with a '+' character in front. While giving input, users may give various problematic issues. For example, during giving names N_i, users may give multiple spaces between the words of their names along with trailing and leading spaces. You need to discard those multiple spaces and consider only a single space in place of them. Also, the first letter of each would should be a capital letter and the remaining letters should be small letters. Similarly, the country code (+880) might be missing in the inputs for P_i, you need to add those as well. The stored format for each P_i, should be +880 $d_1d_2d_3d_4d_5$–$d_6d_7d_8$ $d_9d_{10}d_{11}$. Here d_i means the i_{th} digit. Observe the placement of characters properly, along with spaces.

In this problem, you will be given a string S (containing only English alphabets, 1<=|S|<=100) as the search string. You need to find all the entries that contain this string in any form (Upper or lower) in the entry for N_i. For the matched entries, you need to print them as per the ascending order of N_i. It means that, for any two entries (i and j), the entry with a lexicographically smaller value for the name (N_i), should be printed before. During printing the matched entries, print the name (N_i) and phone number (P_i) all single-spaced in the same line. Two output entries will follow one after another in separate lines. Please see the input and output section for more details.

In the first line, you will be given the value of K. In the following 2 x K lines, you will be given the information of the phonebook. In this group of entries, the first line will be the name (N_i) and the following line will be (P_i). After these entries, you will get the value of S.

Constraints,

- **You can not use built-in string-related specific functions** (split, toUpperCase, toLowerCase, equals, compareTo) to solve this problem. You can only use, size and charAt() function. It is expected that, you would write everything from scratch here.

5 ABc AbA ghI +88001234567898 dEg hhj Kjl 01234576789 aba bbc bcB 01344576789 h j ABA +88001464576703 kkl abc bAA 01334599789 aBa	Aba Bbc Bcb +880 01344-576 789 Abc Aba Ghi +880 01234-567 898 H J Aba +880 01464-576 703

6 Abcdef ijk +88001111111111 RaR wdMttt 06661555799 Mmnrar mff mar mdh 04688931265 Jao bol mrra 05551311444 rrhmah ttthom 07771198611 tttkat EuroPe +88002213141197 tTt	Rar Wdmttt +880 06661-555 799 Rrhmah Ttthom +880 07771-198 611 Tttkat Europe +880 02213-141 197

20 aYPHloAaFduneDkNQdMWxuvxKmda 04441358028 mnCqYoRxXMziIhIWuWwGGuMRFNUkEUxzZwVEkYhwPPbqSRYOcbLxvEMfdune 89862611154 zzYdunexukWOmmjfrAxBJThINnimhTUnRp +88038679632402 DUNErrqmiNJDXEHOWetCOePSabUaHnHNYlBgHgBX +88092220482102 DUNEwuj fFCqOkHlveMeSKEdeOrwgf VOObQUMdkPWav 27412490386 oTTohsHZBVOPnkY +88014933386575 OevevQiBFvMTScM 92203013020 gUzkPAuPThIbhqv +88052139110571 uJOjxOVIdYnJPJo +88007855377278 GLLTDLVLiXxzezq 93948895729 SWNHkbkEszYraNF	Ayphloaafdunedknqdmwxuvxkmda +880 04441-358 028 Dunerrqminjdxehowetcoepsabuahnhnylbghgbx +880 92220-482 102 Dunewuj Ffcqokhlvemeskedeorwgf Voobqumdkpwav +880 27412-490 386 Mncqyorxxmziihiwuwwggumrfnukeuxzzwvekyhwppbqsryocblxvemfdune +880 89862-611 154 Zzydunexukwommjfraxbjthinnimhtunrp +880 38679-632 402

74769752928 QLATYwlBbAJxeHY 24404689083 wdZBUrj YAuNoTH +88025915578098 tFXQ r MVeAXJYR 66906021513 bkukqhMaWOuHJxw +88075359687086 xMxwWbukbqryolt +88065654401233 JfrnzuMJEPkljGn +88007271305190 BoIEpWcaafqrPRS 76294928970 wmXpnLlCIUfUmsk 66108302375 LoNyPtqwqSXEkuY 18731193392 DuNe	

Submission:

During submission, submit only one single Java file. The Main class's name should be, Problem_X where X denotes your roll number. Please do not participate in any sort of unexpected act (Plagiarism/copy, etc.). This will lead to severe penalties. Alongside this, please maintain the

submission format. I intend to check each submission by giving inputs. So, if you do not maintain the rules properly, your submission will not be properly evaluated. Best of luck.