

Problem Name: My Phonebook

In this problem, you are given a phonebook having K ($1 \leq K \leq 1000$) entries. i^{th} entry of the phonebook will consist of two entities, name (N_i , $1 \leq |N_i| \leq 100$) 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, $1 \leq |S| \leq 100$) 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 $2 \times K$ 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	Aba Bbc Bcb +880 01344-576 789
ABc AbA ghI	Abc Aba Ghi +880 01234-567 898
+88001234567898	H J Aba +880 01464-576 703
dEg hhj Kjl	
01234576789	
aba bbc bcB	
01344576789	
h j ABA	
+88001464576703	
kl abc bAA	
01334599789	
aBa	

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

20	Ayphloaafdunedknqdmwxuvxkmda +880
aYPHloAaFduneDkNQdMWxuvxKmda	04441-358 028
04441358028	Dunerrqminjdxehowetcoepsabuahnnylbg
mnCqYoRxXMziIhIWuWwGGuMRFNUkEUxzZwVEk	hgbx +880 92220-482 102
YhwPPbqSRYOcbLxvEMfdune	Dunewuj Ffcqokhlvemeskedeorwgf
89862611154	Voobqumdkpwav +880 27412-490 386
zzYdunexukWommjfrAxBJThINnimhTUnRp	Mncqyorxxmziihiwuwggumrfnukeuxzzw
+88038679632402	vekyhwppbqsryocblxvemfdune +880
DUNErrqmiNJDxEHOWetCOePSabUaHnHNYlBgHgB	89862-611 154
X	Zzydunexukwommjfraxbjthinnimhtunrp
+88092220482102	+880 38679-632 402
DUNEwuj fFCqOkHlveMeSKEdEOrwgf	
VOObQUMdkPWav	
27412490386	
oTTohsHZBVOPnkY	
+88014933386575	
OevevQiBFvMTScM	
92203013020	
gUzkPAuPThlbhqv	
+88052139110571	
uJOjxOVIIdYnJPJo	
+88007855377278	
GLLTDLVLiXxzezq	
93948895729	
SWNHkbbkEszYraNF	

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.