Search

Sajjad   Home

Instructions
Scoreboard
   My score
   Friends
   Everyone
   My Clarifications

Problems

⬤ **25: Tourist**
   30: Interception
   45: Ethan Searches for a String

51:31:02

Resources

   Past Rounds
   Update Registration
   FAQ
   Terms and Conditions

Facebook Hacker Cup 2018 Qualification Round

Request Clarification

Tourist

25 points

Last valid submission time: July 7, 2018 at 3:02pm [details]

Download Input   **Expired**

The Facebook campus has N different attractions, numbered from 1 to N in decreasing order of popularity. The name of the ith attraction is A_i, a unique, non-empty string consisting of at most 20 characters. Each character is either a lowercase letter ("a".."z"), uppercase letter ("A".."Z"), or digit ("0".."9").

Alex enjoys visiting the campus repeatedly for tours (including the free food!). Each time he visits, he has time to see exactly K of the attractions. To decide which K he'll see, he sorts the N attractions in non-decreasing order of how many times he's already seen them before, breaking ties in decreasing order of popularity, and then chooses the first K attractions in the sorted list. In other words, he prioritizes seeing attractions which he's seen the fewest number of times previously, but also opts to see the most popular attractions out of the ones he's seen an equal number of times.

Alex has visited the Facebook campus V-1 separate times already, and is about to go for his Vth visit. Given that he's always followed the rules stated above, and that he'll continue to, he'd like to determine which K attractions he'll see on his Vth visit. He'd like to list them in decreasing order of popularity (in other words, in the same relative order as they appear in the given list of all N attractions).

Input

Input begins with an integer T, the number of campuses. For each campus, there is first a line containing the space-separated integers N, K, and V. Then, N lines follow. The ith of these lines contains the string A_i.

Output

For the ith campus, print a line containing "Case #i: " followed by K space-separated strings, the names of the attractions that Alex sees on his Vth visit, in decreasing order of popularity.

Constraints

$1 \le T \le 80$
$1 \le K \le N \le 50$
$1 \le V \le 10^{12}$

Explanation of Sample

In the first case, Alex saw the LikeSign on his first visit and the Arcade on his second visit. On his third visit he sees the SweetStop as its the most popular of the attractions he hasn't yet seen.

In the third and fourth cases, Alex sees {LikeSign, Arcade, SweetStop} on his first visit, then {LikeSign, Arcade, SwagStore}, then {LikeSign, SweetStop, SwagStore}.

Example input · Download

```
6
4 1 3
LikeSign
Arcade
SweetStop
SwagStore
4 4 100
FoxGazebo
MPK20Roof
WoodenSculpture
Biryani
4 3 1
LikeSign
Arcade
SweetStop
SwagStore
4 3 3
LikeSign
Arcade
SweetStop
SwagStore
4 3 10
LikeSign
Arcade
SweetStop
SwagStore
2 1 1000000000000
RainbowStairs
WallOfPhones
```

Example output · Download

```
Case #1: SweetStop
Case #2: FoxGazebo MPK20Roof WoodenSculpture Biryani
Case #3: LikeSign Arcade SweetStop
Case #4: LikeSign SweetStop SwagStore
Case #5: LikeSign Arcade SwagStore
Case #6: WallOfPhones
```

Chat (23)

About   Create Ad   Create Page   Developers   Careers   Privacy   Cookies   Ad Choices   Terms   Help

Facebook © 2018

English (US)   فارسى   Español   Français (France)   中文(简体)   العربية   Português (Brasil)   Italiano   한국어   Deutsch   हिन्दी

Chat (23)