

400 Unix ls

The computer company you work for is introducing a brand new computer line and is developing a new Unix-like operating system to be introduced along with the new computer. Your assignment is to write the formatter for the `ls` function.

Your program will eventually read input from a pipe (although for now your program will read from the input file). Input to your program will consist of a list of (F) filenames that you will sort (ascending based on the ASCII character values) and format into (C) columns based on the length (L) of the longest filename. Filenames will be between 1 and 60 (inclusive) characters in length and will be formatted into left-justified columns. The rightmost column will be the width of the longest filename and all other columns will be the width of the longest filename plus 2. There will be as many columns as will fit in 60 characters. Your program should use as few rows (R) as possible with rows being filled to capacity from left to right.

Input

The input file will contain an indefinite number of lists of filenames. Each list will begin with a line containing a single integer ($1 \leq N \leq 100$). There will then be N lines each containing one left-justified filename and the entire line's contents (between 1 and 60 characters) are considered to be part of the filename. Allowable characters are alphanumeric (a to z, A to Z, and 0 to 9) and from the following set { `._-` } (not including the curly braces). There will be no illegal characters in any of the filenames and no line will be completely empty.

Immediately following the last filename will be the N for the next set or the end of file. You should read and format all sets in the input file.

Output

For each set of filenames you should print a line of exactly 60 dashes (-) followed by the formatted columns of filenames. The sorted filenames 1 to R will be listed down column 1; filenames $R + 1$ to $2R$ listed down column 2; etc.

Sample Input

```
10
tiny
2short4me
very_long_file_name
shorter
size-1
size2
size3
much_longer_name
12345678.123
mid_size_name
12
Weaser
Alfalfa
Stimey
```

Buckwheat
 Porky
 Joe
 Darla
 Cotton
 Butch
 Froggy
 Mrs_Crabapple
 P.D.
 19
 Mr._French
 Jody
 Buffy
 Sissy
 Keith
 Danny
 Lori
 Chris
 Shirley
 Marsha
 Jan
 Cindy
 Carol
 Mike
 Greg
 Peter
 Bobby
 Alice
 Ruben

Sample Output

```

-----
12345678.123      size-1
2short4me         size2
mid_size_name     size3
much_longer_name  tiny
shorter           very_long_file_name
-----
Alfalfa          Cotton          Joe          Porky
Buckwheat        Darla          Mrs_Crabapple Stimey
Butch            Froggy        P.D.         Weaser
-----
Alice            Chris          Jan           Marsha        Ruben
Bobby            Cindy          Jody          Mike           Shirley
Buffy            Danny          Keith         Mr._French    Sissy
Carol            Greg           Lori          Peter
  
```