

## 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
Alfalpa
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
  
```