

When handling string, we may need different processing techniques for different purposes. Common string processing techniques include echo (ECHO), to uppercase (UPPERCASE), to lowercase (LOWERCASE), capitalization (CAPITALIZATION), ascending (ASCENDING), and descending (DESCENDING):

- The ECHO directly outputs the input string.
- The UPPERCASE changes the whole string the uppercase.
- The LOWERCASE makes the whole string to lowercase.
- The CAPITALIZATION sets all characters to lowercase except the first character of each word.
- The ASCENDING sorts the string in ascending order according to the order of alphabet. (Hint: ‘A’ is greater than ‘a’ but less than ‘b’.)
- The DESCENDING sorts the string in descending order.

You have to give a program which can process string according to different input commands mentioned above.

**Input**

The first line contains an integer  $n$  denoting the number of test cases. Each test case has two strings in two lines. The first string serves as the command string which may be one of the six possibilities (ECHO, UPPERCASE, LOWERCASE, CAPITALIZATION, ASCENDING, DESCENDING). The second (target) string with a maximum length of 100 is the string to be processed. If the command string is either ASCENDING or DESCENDING, then the target string has no space characters before the last newline character.

**Output**

For each case, print the result of string processing in one line according to the command string.

**Sample Input**

```
3
CAPITALIZATION
this is a book
ASCENDING
dCXADstobQgvjOoLKgfPPKCbdwxzQlvBwxIfFcLZmuWBQcHBJLmQGmPe
UPPERCASE
Abc def
```

**Sample Output**

```
This Is A Book
AbbBBBccCCddDeffFggGHIjJKKlLLLmmmmooOPPPQQQstuvvwWxxXzZ
ABC DEF
```