Problem 4 - String Builder

A **string builder** is a data structure we use to dynamically build strings. Thing is the C standard library has no built-in string builder. Hey, why don't we write one?

Write a program that reads as input an unknown number of commands and executes them. The commands will be in the following formats:

1. **concat-{string}** - concatenates *string* to the result
2. **insert-{string}-{pos}** - inserts *string* at position *pos* in the result
3. **replace-{occurrence}-{replacement}** - replaces all occurrences of *occurrence* in the result with *replacement*. Matching should be **case-sensitive** (i.e. lowercase/uppercase symbols matter).

For example we are given the following input lines:

Command	Result
concat-Dennis	Dennis
concat-Ritchie	DennisRitchie
insert- MacAlistair -6	Dennis MacAlistair Ritchie
concat- is the inventor of the UNIX operating system	Dennis MacAlistair Ritchie is the inventor of the UNIX operating system
concat- and the C# programming language.	Dennis MacAlistair Ritchie is the inventor of the UNIX operating system and the C# programming language.
replace-C#-C	Dennis MacAlistair Ritchie is the inventor of the UNIX operating system and the C programming language.
over	-

When we receive "over", we print the built string on the console.

Input

The input will be read from the standard input. You will be given an unknown number of commands, each on a separate line. The input will end when you receive "**over**".

The input will always be valid and in the format described, there is no need to check it explicitly.
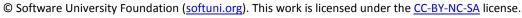
Output

The output should be printed on the standard output. You must print the **resulting string** on the console.

Constraints

- Each input line will be a valid **concat**, **insert** or **replace** command and will hold **up to 64 symbols**.
- The input will always end with a line holding "**over**". The command parameters will always be valid (e.g. the insert position cannot be negative) and will contain ASCII symbols (without '-').
- The program should display **no memory leaks**, **buffer overflows** or **dangling pointer anomalies**.
- Using C++ is **forbidden**.
- Allowed working time: 0.1 seconds. Allowed memory: 16 MB.

Examples

Input	Output
concat-Gosho concat- Pesho concat- Gero concat- Stavri concat- Pencho over	Gosho Pesho Gero Stavri Pencho

Input	Output	Comments
concat-start insert- A -0 insert- B -2 insert- C -4 insert-end-13 over	A B C starendt	start A start A B start A B C start A B C starendt

Input	Output
concat-This is unacceptable! replace-is-at concat- C is just C. replace-C-C# concat- AAAAAA replace-AA-A over	That at unacceptable! C# is just C#. AAA

Input	Output
concat-bbb replace-b-bb over	bbbbbb

Input	Output
concat-Dennis concat-Ritchie insert- MacAlistair -6 concat- is the inventor of the UNIX operating system concat- and the C# programming language. replace-C#-C over	Dennis MacAlistair Ritchie is the inventor of the UNIX operating system and the C programming language.