

In this online, your task is to write a bash script that reads `Q` operations from `stdin` and perform those operations in the current directory.

The first line of the input will contain a positive integer `Q`. Then the next `Q` lines will be in one of these three formats below:

The operations are of these three types:

1. `open <filename>`: Create a file named `<filename>` if it does not exist, ignore the command if the file already exists. Assign a `file descriptor` i.e. a non-negative value to that file. The algorithm for assigning `file descriptor` is to assign **minimum non-negative** number that is not in use. For example, if the current open files consume file-descriptors `0, 1, 2, 4, 5`, then the next `open` command will assign `3` as the file-descriptor.
2. `close <filename>`: closes the file named `<filename>` (don't remove it), ignore if no such file is open. After closing the file, the file descriptor for that file should be freed for later use. If the current available file descriptor pool is `[0, 1, 2, 4, 5, ...]` and a file with file descriptor `3` is freed, the available fd pool will be `[0, 1, 2, 3, 4, 5, ...]`.
3. `append <fd> <word>`: Append the `<word>` in a newline to the end of the file having file descriptor `<fd>`. If `append 0 hello` is the command, and `input.txt` is the open file having file descriptor `0`, then you should append `hello` in a newline at the end of `input.txt`. It is guaranteed that `<word>` contains only alphanumeric characters.
Ignore this command if no such file descriptor is open.

See a sample example below:

Line	Input	Explanation	Consumed fd
1	6	You will have to perform 5 operations	<code>[]</code>
2	<code>open a.txt</code>	Create <code>a.txt</code> and assign <code>fd 0</code> to it.	<code>[0]</code>
3	<code>open b.txt</code>	Create <code>b.txt</code> and assign <code>fd 1</code> to it.	<code>[0, 1]</code>
4	<code>append 1 hello</code>	Append <code>hello</code> at the end of <code>b.txt</code>	<code>[0, 1]</code>
5	<code>close b.txt</code>	close <code>b.txt</code> and free <code>fd 1</code>	<code>[0]</code>
6	<code>open c.txt</code>	Create <code>c.txt</code> and assign <code>fd 1</code> to it.	<code>[0, 1]</code>
7	<code>append 1 hello</code>	Append <code>hello</code> at the end of <code>c.txt</code>	<code>[0, 1]</code>

At the end of these `6` operations, `a.txt` will be empty and both `b.txt` and `c.txt` will contain `hello` as their contents.