A code minimizer takes a source code file and does essentially two things: (1) it removes comments and unnecessary whitespace and (2) it replaces identifiers with shorter ones. This exercise is similar to part (2). You may write this in any programming language of your choice. You may use any standard library functions you want.

You will write a function that takes as input a string containing source code and finds and replaces duplicate identifiers. For the purposes of this exercise an identifier is a string of letters (only). For example, "**alice**" is a single identifier while "**jump4joy**" is the identifier "**jump**", the non-identifier "**4**" and a second identifier "**joy**".

The second and subsequent times each identifier appears it is replaced by a dollar sign and a number which is the index of the first appearance of that identifier, counting the first identifier as 0, the next as 1, etc. For example the input "**you say yes, I say no you say stop and I say go go go**" would yield the result "**you say yes, I $1 no $0 $1 stop and $3 $1 go $12 $12**".

Anything that is not an identifier is output as is and you do not need to parse the non-identifier parts. As mentioned above, this is not a real minimizer, because unlike a real minimizer the result is not valid code. And, as you will see in the larger example below, the replacements are made even inside comments and strings (which a real minimizer probably wouldn't do).

Here's a larger example:

```
        /*
         * Function to chop a string in half.
         */
        public static string foo(string input) {
            if (input == null || input.isEmpty()) {
                return input;
            }
            if (input.length() % 2 == 1) {
                return "cannot chop an odd-length string in half";
            }
            return input.substring(input.length() / 2);
        }
```

=>

```
        /*
         * Function to chop a string in half.
         */
        public static $4 foo($4 input) {
            if ($12 == null || $12.isEmpty()) {
                return $12;
            }
            $13 ($12.length() % 2 == 1) {
                $18 "cannot $2 an odd-$22 $4 $5 $6";
            }
            $18 $12.substring($12.$22() / 2);
        }
```