M3 Challenge

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Write a function called append(), which will do the following: 1. add a element at the end of the array 2. return the length of the array

requirement: use pointer to write the function, make sure there is no memory leak if you dynamically allocated the memory of an object.

Example 1:

```
input: arr[10] = {1,2,3,4,5,6,7,8,9,0}, int input=2
output: arr[11] = {1,2,3,4,5,6,7,8,9,0,2}, the length of new arr is 11
```

Example 2:

```
input: arr[3] = {1,2,3}, int input=31
output: arr[4] = {1,2,3,31}, the length of new arr is 4
```

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Given an array of characters chars, compress it using the following algorithm:

Begin with an empty string s. For each group of consecutive repeating characters in chars:

If the group's length is 1, append the character to s.
Otherwise, append the character followed by the group's length.
The compressed string s should not be returned separately, but instead, be stored in the input character array chars. Note that group lengths that are 10 or longer will be split into multiple characters in chars.

After you are done modifying the input array, return the new length of the array.

You must write an algorithm that uses only constant extra space.

Example 1:

```
Input: chars = ["a","a","b","b","c","c","c"]
Output: Return 6, and the first 6 characters of the input array should be: ["a","2","b","2","c","3"]
Explanation: The groups are "aa", "bb", and "ccc". This compresses to "a2b2c3".
```

Example 2

```
Input: chars = ["a"]
Output: Return 1, and the first character of the input array should be: ["a"]
Explanation: The only group is "a", which remains uncompressed since it's a single character.
```

Example 3

```
Input: chars = ["a","b","b","b","b","b","b","b","b","b","b","b","b"]
Output: Return 4, and the first 4 characters of the input array should be: ["a","b","1","2"].
Explanation: The groups are "a" and "bbbbbbbbbbbb". This compresses to "ab12".
```

Constrains

```
1 <= chars.length <= 2000
chars[i] is a lowercase English letter, uppercase English letter, digit, or symbol.
```