

Total Decoding Messages

A top secret message containing letters from A-Z is being encoded to numbers using the following mapping:

```
'A' -> 1
'B' -> 2
...
'Z' -> 26
```

You are an FBI agent. You have to determine the total number of ways that message can be decoded, as the answer can be large return the answer modulo $10^9 + 7$.

Note: An empty digit sequence is considered to have one decoding. It may be assumed that the input contains valid digits from 0 to 9 and If there are leading 0s, extra trailing 0s and two or more consecutive 0s then it is an invalid string.

Example 1:

Input: str = "123"

Output: 3

Explanation: "123" can be decoded as "ABC" (123), "LC" (12 3) and "AW" (1 23).

Example 2:

Input: str = "90"

Output: 0

Explanation: "90" cannot be decoded as it's an invalid string and we cannot decode '0'.

Your Task:

You don't need to read or print anything. Your task is to complete the

function **CountWays()** which takes the string as str as input parameter and returns the total number of ways the string can be decoded modulo $10^9 + 7$.

Expected Time Complexity: $O(n)$

Expected Space Complexity: $O(n)$ where $n = |\text{str}|$

Constraints:

$1 \leq |\text{str}| \leq 10^4$