Problem A. Namomo Subsequence

Input file:	*standard input*
Output file:	*standard output*
Time limit:	3 seconds
Memory limit:	1024 mebibytes

"gshfd1jkhaRaadfglkjerVcvuy0gf" said Prof. Pang.

To understand Prof. Pang's word, we would like to calculate the number of *namomo subsequences* of it. The word by Prof. Pang is a string s with n characters where each character is either an English letter (lower or upper case) or a digit. The i-th character of s is denoted by $s[i]$ ($1 \le i \le n$). A subsequence t of s is defined by a list of indices $t_1, \ldots, t_6$ such that $1 \le t_1 < t_2 < \ldots < t_6 \le n$. Let $compare(c_1, c_2)$ be a function on two characters such that $compare(c_1, c_2) = 1$ when $c_1 = c_2$ and $compare(c_1, c_2) = 0$ otherwise. t is a namomo subsequence of s if and only if for any $1 \le i < j \le 6$, $compare(s[t_i], s[t_j]) = compare(namomo[i], namomo[j])$, where $namomo[x]$ represents the x-th character of the string "namomo" ($1 \le x \le 6$).

Output the number of namomo subsequences of a given string s modulo 998244353.

Input

The first line contains a string s with n characters ($6 \le n \le 1000000$). s contains only lower case English letters ('a' – 'z'), upper case English letters ('A' – 'Z') and digits ('0' – '9').

Output

Output one integer – the answer modulo 998244353.

Examples

standard input	standard output
wohaha	1
momomo	0
gshfd1jkhaRaadfglkjerVcvuy0gf	73
retiredMiFaFa0v0	33