

## Problem A

# Simplified Genome Translation

Time limit: 3 seconds

Memory limit: 1024 megabytes

### Problem Description

The translation is a critical step for transferring the genome information (mRNA) into a biology unit (protein). Specifically, it parses three RNA nucleotides into one amino acid according to the codon table (Table 1).

amino acid	RNA nucleotides
F	UUU UUC
L	UUA UUG CUU CUC CUA CUG
I	AUU AUC AUA
M	AUG
V	GUU GUC GUA GUG
S	UCU UCC UCA UCG AGU AGC
P	CCU CCC CCA CCG
T	ACU ACC ACA ACG
A	GCU GCC GCA GCG
Y	UAU UAC
H	CAU CAC
Q	CAA CAG
N	AAU AAC
K	AAA AAG
D	GAU GAC
E	GAA GAG
C	UGU UGC
W	UGG
R	CGU CGC CGA CGG AGA AGG
G	GGU GGC GGA GGG
STOP	UAA UAG UGA

Table 1: The codon table.

For example, given an RNA sequence,  $R = \text{CUCAGCGUUACCUAGUUUCAUUGUGCU}$ , its three code parsing is CUC AGC GUU ACC UAG UUU CAU UGU GCU, and its translated amino acid is  $P = \text{LSVT}$ . Notice UAG is a stop codon that stops the translation process. There are three stop codons, UAA, UAG, and UGA, in Table 1.

## Input Format

The first line contains an integer  $T$ , which represents the number of test cases. Each test case below has one line, an RNA sequence,  $R$ .

## Output Format

Each test case outputs the corresponding translated amino acid,  $P$ .

## Technical Specification

- $1 \leq T \leq 50$ .
- $R$  is the sequence of the alphabet  $\Sigma = \{\text{A}, \text{C}, \text{G}, \text{U}\}$ .
- $|R| = 3 * n$ , where  $1 \leq n \leq 333$ .
- $P$  is the translated amino acids from the  $R$  terminated by STOP codons if existing (i.e., the first test case) or complete translation if no STOP codon.
- All string characters are uppercase letters.

### Sample Input 1

```
5
UUUUAACACUUUAUCACUUAACACCAC
CAAAUAUGAAAAAU
AUGUACUUUGCGUUUCACUAA
UUGCACUACUAC
UACGUGGGGUAUC
```

### Sample Output 1

```
F
QNMKN
MYFAFH
LHYY
YVGI
```