

Morse code is a way of encoding character strings using tones of two durations—short and long, separated by gaps. The short tones are called *dots* (denoted hereafter by ***) and the long tones are called *dashes* (denoted hereafter by *-*). The exact duration of *** is not specified (fast operators will use shorter durations), but the duration of *-* is equal to three ***, and the duration of a gap is equal to one, three or seven ***. In this problem, we consider encoded character strings over an alphabet of 27 characters—the lowercase letters a, b, c, . . . , z and the blank. Each lowercase letter is represented by a specific string of tones, given by the following Morse code table:

a	*-	j	*---	s	***
b	-***	k	-*-	t	-
c	-*-*	l	*-***	u	**-
d	-**	m	--	v	***-
e	*	n	-*	w	*--
f	**-*	o	---	x	-***-
g	--*	p	*--*	y	-*--
h	****	q	--*-	z	--**
i	**	r	*-*		

A lowercase letter is encoded by transmitting the tones representing it, separated by gaps of duration equal to one ***. A word is encoded by transmitting its encoded letters, separated by gaps of duration equal to three ***. Words are separated by a single blank transmitted as a gap of duration equal to seven ***.

Input Format

Each line of input contains a (possibly empty) binary string representing the Morse encoding of a string of lowercase letters and blanks. Gaps separating tones within a letter appear as 0, gaps separating letters within a word appear as 000, and gaps separating words appear as 0000000. A *** appears as 1 and a *-* appears as 111.

Output Format

For each line of input, output the string of lowercase letters and blanks it encodes.

Input Sample

```
1110001010101000100000001110111010111000101011100010100011101011101000111010111
11101010100010111010001110111011100010111011100011101
1010111010001110111011100011101010111
1011101110111000101011100011101110001011101110100010001110101
111000101010100010000000111010100011101110111000111011101
```

Output Sample

```
the quick
brown
fox
jumped
the dog
```