Problem G: Radix 67

Filename: `radix67`
Time limit: `1 second`

Some of the campers really like the number 6, or was it 7? It seems like they can't really decide and like both digits equally. In fact, when trying to say other numbers, say 12, they say 16 instead. Naturally, this system is quite buggy; When someone hears "16", the person talking could have meant 12 or 13, who knows, maybe they actually meant to say 16?

Luckily, all the campers know binary. To make sure they don't misunderstand each other, they've agreed to replace all 0s in binary with 6, and all 1s in binary with 7.

To hide their messages from the RAs, the campers are using Radix-64 (or was it Radix 67?), a 6 bit encoding of 64 symbols. The encoding is as follows: 'A' = 0, 'B' = 1, 'C' = 2, …, 'Z' = 25, 'a' = 26, 'b' = 27, …, 'z' = 51, '0' = 52, '1' = 53, …, '9' = 61, '+' = 62, '/' = 63. This allows the campers to convey messages using upper case letters, lower case letters, digits, the plus sign and a forward slash.

For example, the message "67" would be encoded as the binary equivalent of 58, followed by the binary equivalent of 59. Thus, the campers would encode these two characters in this manner:

777676777677

because 58 in a 6 bit binary representation is 111010 and 59 is 111011.

Arup has hired one of the campers (he has bribed them with cookies) to write a program for him so he can secretly also read the camper's communication.

Problem

Given a message encoded in all 6's and 7's (instead of 0s and 1s) of Radix-64 characters, where each group of 6 "bits" represents a single Radix-64 character, decode the message.

Input

Input will begin with a single integer **c** representing the number of test cases that follow.

Each test case is a single string, **s**, on a line by itself and each character of **s** will be either '6' or '7'.

Output

For each test case, output a single line containing the decoded message.

Input Bounds and Corresponding Credit

100 Points
• 1 ≤ **c** ≤ 15 • 6 ≤ **|s|** ≤ 600, **|s|** is a multiple of 6, all characters of **s** are '6' or '7',

Samples

Input	Output
2 777676777677 676676667666676766666676666767	67 SIUCF