

Problem Parity

Input File: ParityIn.txt

Output File: ParityOut.txt

Project File: Parity

An even parity scheme is a technique for detecting errors in the transmission of digital information. Under this scheme the sender counts the number of on bits in the sequence of bits to be transmitted. Then a bit, called the parity bit, is added to the transmission. The value of the parity bit is chosen to make the total number of on (1) bits in the transmission (including the parity bit) even.

For example, if the data to be transmitted is: 1011011 (decimal 91) and even parity was being used, the value of the parity bit added to the transmission would be 1 to bring the total number of on bits to an even value, 6. Assuming the parity bit was added on the left side of the data, the transmission would be 11011011.

Write a program to receive positive integers represented as seven bit unsigned binary numbers. An even parity scheme will be used to detect errors, with the left most bit being the parity bit. If the transmission is error free, output the decimal value of the transmitted unsigned integer, otherwise the output should be: "Re-transmit please".

Inputs

The first input will be the number of unsigned integers to be transmitted. Each subsequent line will contain eight bits: a seven bit unsigned binary number with an even parity bit appended as the left most bit.

Outputs

The output will be one line per unsigned integer transmitted. The line will contain the decimal value of the integer transmitted or, if an error has occurred, the line will contain the string: Re-transmit please.

Sample input

```
3
10100101
10101101
01011100
```

Sample output

```
37
Re-transmit please
92
```