**Input File:** FloatsIn.txt
Output File: FloatsOut.txt
Project File: Floats

You are writing the part of a compiler that converts floating-point numbers, stored in memory, to base 10 representations. Floating-point numbers are represented in memory using an IEEE standard representation. Under this standard, 32 bits are used to store one floating point value. These thirty-two bits are divided into three fields (groups of bits) as shown below:

S	E	F
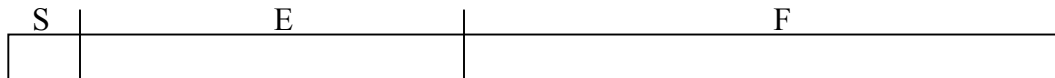
Field S is one bit wide, field E is 8 bits wide, and F is 23 bits wide. S and E are binary unsigned integers. F is a binary fraction. The base 10 value of the stored floating point number is calculated as:

$$(-1)^S * 1.F * 2^{(E-128)}$$

Thus, if S were 1, E were $10000001 = 129_{10}$ and the three left most bits of F were on, F would be $\frac{1}{2} + \frac{1}{4} + \frac{1}{8} = .875_{10}$ and the base 10 floating point number stored would be:

$$-3.75 = (-1)^1 * 1.875 * 2^{129-128}$$

Write a program to translate the internal representation of floating point numbers stored using the IEEE standard into their base 10 representation.

Inputs
The 32-bit binary representation of the floating point numbers, one per line. Each output should have a precision of 12.

Outputs
The base 10 representation of the floating point numbers, one per line.

Sample inputs
11000000111100000000000000000000

00111111101010100000000000000000

01000001010101010101000000000000

Sample outputs
-3.750000000000

0.332031250000

13.332031250000