Third Southern African Regional
ACM Collegiate Programming Competition

Sponsored by IBM

Problem 5 – Pink Balloon
Octal Fractions

Fractions in octal (base 8) notation can be expressed exactly in decimal notation. For example, 0.75 in octal is 0.963125 (7/8 + 5/64) in decimal. All octal numbers of n digits to the right of the octal point can be expressed in no more than $3n$ decimal digits to the right of the decimal point.

Write a program to convert octal numerals between 0 and 1, inclusive, into equivalent decimal numerals. The input to your program will consist of octal numbers, one per line, to be converted. Each input number has the form $0.d_1d_2d_3 \ldots d_k$, where the d_i are octal digits (0..7). There is no limit on k. Your output will consist of a sequence of lines of the form

$$0.d_1d_2d_3 \ \ldots \ d_k \ [8] \ = \ 0.D_1D_2D_3 \ \ldots \ D_m \ [10]$$

where the left side is the input (in octal), and the right hand side the decimal (base 10) equivalent. There must be no trailing zeros, *i.e.* D_m is not equal to 0.

SAMPLE INPUT

```
0.75
0.0001
0.01234567
```

SAMPLE OUTPUT

```
0.75 [8] = 0.953125 [10]
0.0001 [8] = 0.000244140625 [10]
0.01234567 [8] = 0.020408093929290771484375 [10]
```