Sahara Numbers

In the supposedly uninhabited Sahara Desert, a tribe of unusual people has been discovered. The Saharans have only 2 fingers and a thumb on each hand, and have invented their own numbering system. The digits they use and the symbols they use for digits are quite unusual, but anthropologists have been able to represent them as follows:

Saharan	Decimal
%	0
)	1
~	2
@	3
?	4
\	5
$	-1

As you may expect, their system is base 6 where each place value is 6 times the value to its right, as in the following examples:

)@% is equal to $1*6^2 + 3*6^1 + 0*6^0 = 36+18+0 = 54$
?$~~ is equal to $4*6^3 + (-1)*6^2 + 2*6^1 + 2*6^0 = 864-36+12+2 = 842$
$~~ is equal to $(-1)*6^2 + 2*6^1 + 2*6^0 = -36+12+2 = -22$

Your task is to take Saharan numbers and represent them as standard base 10 numbers.

Input Format

The input file consists of Saharan numbers, one per line.
Each number consists of a sequence of 1 to 10 Saharan digits.
A single '#' on a line by itself indicates the end of input.

Output Format

The output file should consist of the corresponding decimal numbers, one per line.

Test Data

First:

Sample Input:

```
)@%
?$~~
$~~
%
#
```

Expected Output:

```
54
842
-22
0
```

Second:

Sample Input:

```
$\@
?
~)%
%%\?@~
#
```

Expected output:

```
-3
4
78
1244
```