

Fourth Southern African Regional ACM Collegiate Programming Competition

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Problem 1 – Pink balloon Radix 3

The Great Sand Council (GSC) of the planet Phleebutt (apologies to Sierra) have devised a base 3 number system to suit their physiology. The symbols used to represent the three valid digits of their number system are '0', '1', and '-', following the unusual configuration of their 'hands' (don't ask). The decimal counterparts of the three symbols are, respectively, 0, 1 and -1.

Each position in a number has a value three times greater than the position immediately to its right. For example, the number '10-' has the value 8 in decimal, since $1*9 + 0*3 + -1*1 = 8$. Similarly, the number '-1' has the decimal value -2, since $-1*3 + 1 = -2$.

You have to write a program that can convert 32-bit signed decimal integers into their equivalent Great Sand Council (GSC) representations.

Sample Input

Your program will receive a list of integers as input, for example:

```
10
2
-17
42
1024
```

Sample Output

You have to echo the input numbers, followed by their GSC representations (include all extra symbols, as shown below):

```
10 = 101 GSC
2 = 1- GSC
-17 = -1-0- GSC
42 = 1---0 GSC
1024 = 111-0-1 GSC
```