

C style constants

For each input line, interpret it as a hexadecimal number (if it begins with 0x), an octal number (if it begins with 0), and a decimal number otherwise, and output its value in decimal.

Score is the length of your source.

Input

The input file consists of series of numbers (as described above) one in each line.

The input is terminated by EOF.

Output

The decimal value of the given number.

Example

Input:

```
0146
0xcd
0x188
0611
0x37d
0x0
0x1
01
1
0x2
```

Output:

```
102
205
392
393
893
0
1
1
1
2
```

PS: Take care about your fingers, do not use more than **128 bytes of code**.