



EXERCISES — Rotx

version #7be580532266ed398481e31366afcc24b1950c2a



**The way is lit. The path is clear.
We require only the strength to follow it.**

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File Tree

```
rotx/  
└─ rotx.c (to submit)
```

Authorized functions : You are only allowed to use the following functions

- read(2)
- write(2)
- atoi(3)

Authorized headers : You are only allowed to use the functions defined in the following headers

- err.h
- errno.h
- assert.h
- stddef.h

Compilation : Your code must compile with the following flags

- -std=c99 -pedantic -Werror -Wall -Wextra -Wvla

Main function : Required

1 Objective

You have to implement a *rotX* algorithm. The *rotX* applies a rotation of *X* on each letter of a message in order to make it unreadable. The revert rotation must be applied again to get the original message back.

It is called a rotation because when incrementing the value of a character, the value comes back to the beginning when it goes beyond the last possible symbol. For example, when applying a rotation of 3 on the letter 'Y', the result is 'B' because the value went through 'Z' then 'A' and finally 'B'.

You only have to handle input characters from *a* to *z*, from *A* to *Z* and from *0* to *9*.

Your program must apply the *rotX* algorithm to the text on the standard input, and display the rotated text on the standard output, where the *X* value is passed as the first argument to the program. If no argument is given, do not display anything.

Return 1 if any syscall fail, 0 otherwise.

Going further...

A famous *rotX* is the *rot13*, a 13-character rotation. Because the alphabet contains $2 \times 13 = 26$ letters, applying the *rot13* twice gives the original message.

2 Example

```
42sh$ cat decoded.txt
I wanted to do an album with the sounds of the 50s, the sounds
of the 60s, of the 70s and then have a sound of the future.
42sh$ cat decoded.txt | ./rotx 15 > encoded.txt
42sh$ cat encoded.txt
X lpcits id sd pc paqjb lxiw iwt hdjcsh du iwt 05h, iwt hdjcsh
du iwt 15h, du iwt 25h pcs iwtc wpkt p hdjcs du iwt ujijgt.
42sh$ cat encoded.txt | ./rotx -15
I wanted to do an album with the sounds of the 50s, the sounds
of the 60s, of the 70s and then have a sound of the future.
```

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