

Simple Codec

Here is a simple coding scheme designed for wireless communication between a smart lock and an Android/iOS application: Each letter in the alphabet is assigned a number from 1 to 26, alphabetically. Given any upper-case word, it is encoded it as follows:

- Odd numbered letters are replaced by their alphabetic opposite.
- Even numbered letters are replaced by two characters - itself, and its opposite.

Example:

Input data	Encoded Output
ABC	ZBYX
XYZ	XCBZA
GHI	THSR
NOP	NMLPK
JKL	JQPLO
UTS	FTGH

Your exercise is to code two functions:

- Encode: this will take an upper case string, and return the encoded string according to the scheme described above.
- Decode: this will take a string encoded as above, and return the decoded string.

The implementation will be in the language of your choice - C, Python or Javascript. You are expected to test the code with the examples given above. Once you are done, please share the encode and decode functions along with the test functions.