Encryption

In C++, the logical exclusive or (XOR) is a useful operator for performing encryption and decryption. The operator is the circumflex ^ and is performed on bytes.

This is useful because the program can store an array of characters to be subjected to the XOR operation. The result of the logical XOR will be stored and used for when the encrypted array needs to be decrypted. The XOR is a simple, and relatively inexpensive, way to encrypt where the data can be easily decrypted.

Encrypting XOR example:

The char ‘s’ will be encrypted once using ‘x’ as the encryption key.

Char ‘s’ (int value 115) 01110011

Char ‘x’ (int value 120) 01111000 XOR

00001011 = 11

Decrypting XOR example:

The byte 00001011 will be subjected to XOR on the same character, x.

00001011

01111000 XOR

01110011 = 115 = char ‘s’

It does not take much to make this algorithm more complex: simple mathematical operations can serve to obfuscate the original identity of the to-be-encrypted number even more. Another option is to use more logical operators; one must be careful about their use: to decrypt properly, the operators should be used in the reverse sequence.