Final Exam: Introduction to Operating Systems CS-UY 3224 — CS-UY 3224G
part II, 40 points

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December 12, 2023

Instructions

1. Answer both questions.
2. Write your code in a clear and organized manner, with enough comments so that I can follow it.
3. You may use any additional resources you wish except for artificial intelligence generating software. The work you present must be your own.
4. Test that your program compiles well and that it does what it is supposed to do.
5. Hand in through Brightspace.

Program 1: Guessing messages (20 points)

Write a C program with the following features: the user inputs an encrypted message in a Ceasar's Cypher with a key unknown to the system. Thanks to some testing techniques of your invention the program will be able to guess to a large probability what the key is. Then it deciphers the message, outputting the result on the screen.

Program 2: Encoding (20 points)

Here is a simple encoding system: take a message and transform it into a binary number using some fixed scheme. Change every bit according to some consistent key (for example applying XOR (exclusive OR) with a given binary number known to you and the recepient. Send the code to the recepient who then decodes by reversing the process.

Write a C program that emulates the above process.