

Assignment #1

Network and Cyber Security-I

Due Date: September 23, 2022

Instructions and what to submit

- ***Strict plagiarism policy is enforced, merely change of variables will also be considered plagiarism (all parties will get zero MAY be in all assignments)***
- ***Late submission is no submission***

In Question1: The screen shot should clearly highlight the respective security capability you have achieved? One-line discussion is compulsory below every screenshot (screen shot should clearly reflect that you have installed and configured the software yourself, use free-versions of tools where necessary)

In Question 2: submit .c file (any other language will get zero) only with screen shots of output. A small video explaining logic to be attached as well (not exceed 3 mins)

Q1: Install and demonstrate the functionality of these basic tools to illustrate the following security capabilities of a system/communication?

1. Bitlocker/ VeraCrypt(for confidentiality)
2. IgorWare Hasher/ HashCheck (for integrity)
3. Solarwinds Security event manager/wirehark(for accounting)
4. ManageEngine/N-able N-sight(for auditing)
5. Tor browser/privacybee (for privacy)
6. Kisi(for access control)

7. Hide'N'Send/SSuite PisceI(for image steganography)
8. LastPass/Duo Security (for authentication)

Q2: Implement following simple encryption/ decryption algorithms in

C/C++(only)?

1. Caesar cipher (with fix Key=3)
2. Write a simple cracker to find all 26 combinations of text encrypted with Caesar at fix key=3
3. Simple Substitution cipher (with Key range from 1-26 randomly)
 - a. Program a cracker to find all possible combinations(bonus marks)
4. Playfair encrypter and decypter
5. Hill cipher encrypter and decypter
6. Vigenere cipher encrypter and decypter
7. a single columnar transposition cipher

