**Assignment Module 10: Encryption  
Caesar-cipher-in-cryptography**

If you are at a coffee shop, surfing the Web, your wireless device is using a radio to send your keystrokes and mouse clicks to the shop’s hotspot. Every computer in the room receives those signals, and if the communication wasn’t encrypted everyone could follow your session. So, let’s learn about encryption by doing the following:

* (1 pt) Define encryption

Encryption is the process of encoding information such that it can ideally only be read by an intended party by way of a key.

* (1 pt) Describe the types of encryption

The 2 types of encryption are symmetric encryption, in which all parties use the same encryption and decryption key, and asymmetric or public key encryption, where the encryption key is public but the decryption key is kept private.

* (1 pt) Give at least 3 reasons why encryption matters

1. Encryption is necessary for computers to function, as they cannot understand plain text, rather all input must be converted into binary code.

2. Your private information would be much more vulnerable if sent as plain text rather than encrypted.

3. If you are developing something that takes data from users, they need to know therefore that their information is secure.

* ((6 pts) Study the content of the Web page [https://www.geeksforgeeks.org/ca esar-cipher-in-cryptography/](https://www.geeksforgeeks.org/ca%20esar-cipher-in-cryptography/)   
  Apply what you have learned to encrypt the message “come and celebrate with us”   
  (a) using a shift of 3



(b) using a shift of 19



(c) Explain how to decrypt the cipher text you got in part (a) and in part (b)

The text could be decrypted by changing the plus sign on line 4 to a minus, and putting in the cipher text as input, as shown here:



I created an empty string called encrText, which is then filled up character-by-character, first converting each character in the user's unput (userText) to its ASCII value by typecasting it as ord, then typecasting that value back to a character with chr, then adding that value to the previously-empty string one by one, then printing the resulting string.

* (1 pt)For this assignment also include the sources you have consulted (at least 2)

pythonguides.com, codecap.org, stackoverflow.com, cloudflare.com

Note: Explain your answers to (4) in such detail that a person that knows nothing about encryption would understand  
Note: Find other web pages that explain this encrypting technique, do not limit yourself just to the web page I provided you above   
Note: Do not use the program that is included in the web page I provided you