Assignment 8 (CS141, 2021-2022)

In this assignment we will build a simple cipher that you can use to encrypt and decrypt messages. In particular, we will build one cipher known as the `Caesar Cipher` (https://en.wikipedia.org/wiki/Caesar_cipher). Given some message (plaintext), for example `secret`, and a variable `shift` equal to 1, the encrypted text for message `secret` is `tfdsfu`, where every character in the message is replaced by a character one place to its right in the English alphabet. The variable `shift` specifies by how many characters you want the message to be shifted. Similarly, given the encrypted text (also known as the ciphertext) `tfdsfu`, you can recover the original message by doing the reverse operation, replace every character with a character one place to its left.

Meaning of words used:
- plaintext or message: the message in plain English
- ciphertext: message is converted to an encrypted text by the process of encryption
- encryption: process of converting a message into a ciphertext
- decryption: process of coverting the ciphertext back to the original message

For this assignment you will write a class `encrypt` for encryption of messages and the class `decrypt` to decrypt messages. You will write methods for encryption and decryption, i.e. to compute the ciphertext given the message and the shift value, and vice versa. The encryption process takes two parameters as input, the plaintext and an integer shift value. You may find the `chr()` and `ord()` functions useful for this purpose. Given a character c as input, `ord(c)` returns an integer that represents an encoding of character c. Since consecutive characters in English alphabet have encodings using consecutive integers, it is possible to convert a character to an integer with some shift and convert the resulting integer back to some character using function `chr()`. The methods for class `decrypt` can be designed in a similar manner.

Name your submission as `Assgn8-YourRollNo.py` and upload the `.py` file in the google classroom.