Tutorial 4: Sequences: Strings and Lists
Due: Friday, Feb 14 (at start of Tutorial 5)

1: Birthstones

A birthstone is a gemstone that represents a person's month of birth. Write a program that prompts the user for the month number they were born in and returns the user's birthstone.

Month	Birthstone
January	Garnet
February	Amethyst
March	Aquamarine
April	Diamond
May	Emerald
June	Pearl
July	Ruby
August	Peridot
September	Sapphire
October	Opal
November	Topaz
December	Turquoise

2: Caesar Cipher

A Caesar cipher is a substitution cipher based on the idea of shifting each letter of a message by a fixed number (called the key) of positions in the alphabet.

For example, if the key is 1, the message "ATTACK AT DAWN" will be converted to "BUUBDLBUEBXO".

   a) Write a program that prompts the user for a message and a key and outputs an encrypted Caesar cipher message.
   b) Explain how you would decrypt a Caesar cipher message if you did not know the key.

3: The Backwards Diary

a) Write a program that prompts the user for a message and encrypts it by reversing the letters in each word. For example "ATTACK AT DAWN" would be converted to: "KCATTA TA NWAD".

b) I found a diary (saved in the diary.txt file). I discovered that it was encrypted by writing every word backwards. Write a program that decrypts the diary and saves it in a new .txt file.