For each program that you turn in be sure to include:

> Your name and the date on which the assignment was completed.
>
> Well-placed comments indicating what your program does (or should do). While it may seem silly for trivial code, it is proper programming etiquette and a good habit to get into.
>
> If you use any source other than the course textbook – that includes Google, YouTube videos, Tutors, Mentors, etc. - be sure to cite the source in your code. Failure to do so is a violation of the Academic Integrity Policy and can result in a failing grade and/or dismissal from the college.

Points will be deducted for failure to adhere to these guidelines.

Create a program called "twentysecond.py". Assume a file containing a series of words is named words.txt and exists on the computer's disk. Write a program that reads the data and counts the number of occurrences of each letter. The program should then display how many times each letter appears in the sentence.

Create a program called "twentythird.py". Complete Ch 8, Programming Exercise 5: Alphabetic Telephone Number Translator, on page 435.

Create a program called "twentyfourth.py". A Caesar Cipher in cryptography is one of the simplest and most widely known encryption techniques. It is a type of substitution cipher in which each letter in the plaintext is replaced by a letter some fixed number of positions down the alphabet. For example, with a left shift of 3, D would be replaced by A, E would become B, and so on. The method is named after Julius Caesar, who used it in his private correspondence. Using the file "words_alpha.txt" write a program that allows the user to enter a single word in encoded ciphertext. The program should then create a set of words using all 25 possible rotations of a Caesar Cipher. The program should then compare the set of words created to the set of the words from the dictionary file and display the possible plaintext English words hidden in the ciphertext.

Cipher Text: SQL

ROT0 SQJ
ROT1 TRK
ROT2 USL
ROT3 VTM
ROT4 WUN
ROT5 XVO
ROT6 YWP
ROT7 ZXQ
ROT8 AYR
ROT9 BZS
ROT10 CAT
ROT11 DBU
ROT12 ECV
ROT13 FDW
ROT14 GEX
ROT15 HFY
ROT16 IGZ
ROT17 JHA
ROT18 KIB
ROT19 LJC
ROT20 MKD
ROT21 NLE
ROT22 OMF
ROT23 PNG
ROT24 QOH
ROT25 RPI

Words in both sets: CAT