**Student Questions:**

1. Refer to the lesson slides to do the following:
   1. Create a folder called “resources”
   2. Create a file called “myfile.txt”
   3. Select “myfile.txt” to be displayed in the Repl editor window
   4. Copy & paste the following text into “myfile.txt”

*Hello kind student\n*

*This is a message from your computer\n*

*I hope you are having fun learning to program\n*

*Remember to ask Mr. Nestor questions when you don’t understand.*

1. Refer to the lesson slides to create a program do the following:
   1. Open “myfile.txt” for reading
   2. Read each line from “myfile.txt” and print it to the console output
   3. Close “myfile.txt”
   4. Provide your program listing below.

fileHandle = open("resources/myfile.txt","r")

numLines = 0

for line in fileHandle :

print(line)

numLines += 1

print("Number of lines is ", numLines)

fileHandle.close()

1. Refer to the lesson slides to create a program do the following:
   1. Create “newfile.txt” and open it for writing
   2. Write several lines of text to the file
   3. Close “newfile.txt”
   4. Select “newfile.txt” to be displayed in the Repl editor window to confirm   
      the proper text was written
   5. Provide your program listing below.

fileHandle.close()

fileHandle = open("newfile.txt","w+")

fileHandle.write("Hello, this is a new file.\n")

fileHandle.write("You should use this text when you")

fileHandle.write("select the file in the file chooser.\n")

fileHandle.close()

1. Research “Python open() Text Files” to learn more about text files
   1. List and explain of the following modes: r, r+, w, w+, a, a+, x

* **Read Only (‘r’) :**Open text file for reading. The handle is positioned at the beginning of the file. If the file does not exist, raises I/O error. This is also the default mode in which file is opened.
* Read and Write (‘r+’) : Open the file for reading and writing. The handle is positioned at the beginning of the file. Raises I/O error if the file does not exists.
* Write Only (‘w’) : Open the file for writing. For existing file, the data is truncated and over-written. The handle is positioned at the beginning of the file. Creates the file if the file does not exists.
* Write and Read (‘w+’) : Open the file for reading and writing. For existing file, data is truncated and over-written. The handle is positioned at the beginning of the file.
* Append Only (‘a’) : Open the file for writing. The file is created if it does not exist. The handle is positioned at the end of the file. The data being written will be inserted at the end, after the existing data.
* Append and Read (‘a+’) : Open the file for reading and writing. The file is created if it does not exist. The handle is positioned at the end of the file. The data being written will be inserted at the end, after the existing data.

1. Research “Python Binary Files” to learn more about binary data files
   1. List and explain of the following modes: t, b
   2. Explain the difference between a text file and a binary file

* A text file stores data in the form of alphabets, digits and other special symbols by storing their ASCII values and are in a human readable format. For example, any file with a . Whereas, a binary file contains a sequence or a collection of bytes which are not in a human readable format.
  1. List some applications that use text data files

ASCII text-formatted data

TXT is a file extension for a text file, used by a variety of text editors. Text is a human-readable sequence of characters and the words they form that can be encoded into computer-readable formats.

* 1. List some applications that use binary data files

Binary Viewer is a free windows utility allowing you to open and view any file located on your computer regardless of format file was saved. It can display data in decimal, octal, hexadecimal and text (ASCII or Unicode) formats. It can open and properly show files containing alternate data streams.

**Extension Question: (Optional)**

1. Write a program to do the following:
   1. Open a file for read, write and append.
   2. Print the contents of the existing file to console output
   3. Ask the user to type a line of text on the console input and store the text in a variable
   4. Ask the user if they want to append or overwrite the text in the file
   5. If they say “append” then append the new text to the end of the file
   6. If they say “overwrite” then delete the existing text and just add the   
      new text to the file
   7. Provide your program listing below.