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| **Unit:** Language Basics | **Turn In List:** **1. This document** |
| *“I will understand and implement sequential file access.”* | |

**Title: Sequential File Access**

**Content Objectives:** Students will become familiar with how to access, read, write and manipulate external data.

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| **Starter Activity** |
| Research the difference between [sequential](http://en.wikipedia.org/wiki/Sequential_access) and [random](http://en.wikipedia.org/wiki/Random_access) file access: |

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| **Assignment:** |
| Students will use the following websites and internet searches to complete the table below:  Java: <http://www.tutorialspoint.com/java/java_files_io.htm>  C++: <http://www.tutorialspoint.com/cplusplus/cpp_files_streams.htm>  C#: <http://www.tutorialspoint.com/csharp/csharp_file_io.htm>  Python: <http://www.tutorialspoint.com/python/python_files_io.htm> and the final lesson of CodeAcademy |

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| **Include Sample Code or Explanation for the following Concepts Below (copy and paste lines from editor)** | |
| What is the proper syntax for opening a file stream? | Var = open(‘filename’ ‘mode’) |
| What is the syntax writing to a file? | Var.write(‘string’) |
| What is the proper syntax for closing a file stream? | Var.close() |
| Where must the file reside in relation to your source code? | The file must reside in the spot that the program is looking for |
| List and describe three modes or methods specific to your language that deal with writing or reading info to a file. | A = append mode  W = write mode  R = reading mode |

Psuedocode an app that draws randomly from a string array of 10 open-ended thought provoking questions, whose answer is typed to the console by the user and stored in an “output.txt” file with question before it.

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| 1. Create a list of strings with these “thought provoking” questions 2. Add a random function that relates a number too the list 3. Print the input statement with the question 4. Append the input to the file |

Divide and conquer! Group leads may break the app into code blocks that accomplish small portions of the functionality mentioned above in pseudocode. Group leads will then take submissions through GitHub to piece together the master code for the group!

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| import random  #1. Create a list of strings with these “thought provoking” questions  questions = ['is a hot dog a sandwhich?', 'would you rather fight ten high schoolers or 50 fourth graders', 'what is your credit card number, expiration date, and three numbers on the back?']  #2. Add a random function that relates a number too the list  value = random.randint(0, 2)  #3. Print the input statement with the question  answer = input(f'{questions[value]}\n')  #4. Append the input to the file  fo = open('output.txt', 'a')  fo.write(f'{answer}\n')  fo.close() |