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| **Unit:** Language Basics | **Turn In List:** **1. This document** |
| *“I will understand and implement 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:  Sequential access is being accessed in a predetermined, ordered sequence. May be only way of accessing data (for example if on tape). The opposite is random access, which is the ability to access a random element as easily as any other at any time. |

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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 conceptselow (copy and paste lines from editor)** | |
| What is the proper syntax for opening a file stream? | File file = new File("File.txt");  if (!file.exists()) {  System.out.println("Creating a new file...");  file.createNewFile();  } |
| What is the syntax writing to a file? | PrintWriter pw = new PrintWriter(new FileWriter(file, true));  pw.println("Line 1");  pw.println("Line 2");  pw.println("Line 3");  pw.println("Line 4");  pw.println("Line 5");  pw.println(""); |
| What is the proper syntax for closing a file stream? | pw.close(); |
| Where must the file reside in relation to your source code? | The file must be in the same directory as the source code. |
| List and describe three modes or methods specific to your language that deal with writing or reading info to a file. | Append to a file… |

Pseudocode 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 string array with 10 elements. 2. Assign each index a question. 3. Use the random class to generate a random number from 0-9 and use that number to refer to an index in the array. 4. Print out the question from the array to the console and output file. 5. Get user input using the scanner class and store it in a variable called input. 6. Print input to the output file using some class. |

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!