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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:  In sequential, you have to read or write it in sequence, starting from the beginning of the file. In random access, you can read or write information anywhere in the file. |

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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? | InputStream f = new FileInputStream("C:/java/hello"); |
| What is the syntax writing to a file? |  |
| What is the proper syntax for closing a file stream? | **public void close() throws IOException{}** |
| Where must the file reside in relation to your source code? | In the same directory, or a directory otherwise indicated within the code |
| List and describe three modes or methods specific to your language that deal with writing or reading info to a file. | FileOutputStream: used to create a file and write data into it  read(int ): Reads the specified byte of data from InputStream, returns an int  write(int. ): writes the specified byte to the output stream |

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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| import java.io.\*;  import java.util.Scanner;  public class Main {  public static void main(String args[]) throws IOException {  FileReader in = null;  FileWriter out = null;  Scanner sc = new Scanner (System.in);    try {  String filename= "Output.txt";  FileWriter fw = new FileWriter(filename,true);  String uIn = sc.nextLine();  fw.write(uIn);  fw.close();  }  }  } |

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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