Running Head: DYNAMIC EXPANSION

Week 4 Application: ArrayList Dynamic Expansion

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The Ex01 class takes a predefined ArrayList and requests that a user add to that list. It does this via the InputStreamReader object inside of a BufferedReader. The BufferedReader takes a given input stream and reads ahead a certain number of bytes. Once that number of bytes has been reached, it then returns the value via one of its read methods (Oracle, 2012). InputStreamReader takes a given byte set and converts it into a char set (Oracle, 2012). Using these two via System.in, input from a keyboard is converted to char values, which can then be converted to a String via the BufferedReader’s readLine() method.

 The predefined ArrayList contains four elements, 0 through 3. At program start, the entire array and array indices are listed. The user is prompted to continue the array, or to end the program, press enter or ctrl + z. Because the ArrayList is updated each time the user presses Enter, they can either type a new entry for the array, or end the program. Each entry to the array is added via the ArrayList.add() method.

Typing “Enter” without any input passes a blank string to the BufferedReader.readLine() method which halts the input loop. On the other hand, “ctrl + z” causes an exception in the system, which is caught, ending the input loop. Since the input loop is inside a try...catch…finally statement, the end of the loop via either of these methods results in the updated array being output, along with the index of each element. A screenshot of system output can be found in the index of this paper.

Reference

Oracle. (2012). *Class BufferedReader*. Retrieved September 28, 2012, from Oracel Documentation: http://docs.oracle.com/javase/7/docs/api/java/io/BufferedReader.html

Oracle. (2012). *Class InputStreamReader*. Retrieved September 28, 2012, from Oracle Documentation: http://docs.oracle.com/javase/7/docs/api/java/io/InputStreamReader.html

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Output

