

**Unit Five Assignment Three:**

Write a Java project (Applet) with just a driver class.

First, this project should randomly generate an integer between 50 and 100 inclusive. Now declare an array of integers with this random number as its length.

Next, this project should place, into the array and a JTextArea, 50 randomly generated integers. These integers should be generated in the following way...

1<sup>st</sup> integer should be between 0 & 4, inclusive  
2<sup>nd</sup> integer should be between 5 & 9, inclusive  
3<sup>rd</sup> integer should be between 10 & 14, inclusive  
.  
.  
.  
50<sup>th</sup> integer should be between 245 & 249, inclusive

Generating the integers in this way will assure they are in ascending order. In the JTextArea, there should be 10 integers per line.

Now, randomly generate an additional 30 integers between 0 and 255 and insert them into the array so that the array remains in ascending order. This process could present a problem if the original length of the array was less than 80. Your program must trap this possible subscript out of bounds error by throwing an exception. If an exception is thrown, you must double the size of the array.

Once all 80 integers have been correctly placed into the array they should be printed to the same JTextArea, again with 10 integers per line.

Paste your output into a Word document and turn it in with your code. This Word document should look similar to the one attached to this assignment.

Your driver class should contain 2 private instance fields: one JTextArea and one array of integers with a randomly generated length.

This class should have an `init()` method that sets up the GUI and does most of the work.

You will definitely want additional methods, but how many and what they do will be determined by how you decide to handle the exception.

Suggestions:

`fillArray()` - fills the array with the first 50 random Integers and perhaps prints them out.

`insert(int num, int sub)` - inserts the value stored in `num` into the array at the subscript stored in `sub` (this method could contain the exception handler)

`resize()` - doubles the size of the array if a subscript out of bounds error is thrown.