Select at least **two** of the following topics on Java features for your initial post. Provide a code example, where necessary, to elaborate your thoughts.

* Inheritance
* Polymorphism
* ArrayList
* LinkedList
* HashMap
* HashSet

One of Java’s features is inheritance. According to Liang (2019), inheritance “defines a new class by extending an existing class” (sect. 11.1). It is important to note that a subclass is a new class from an existing class, not a subset (Liang, 2019). When using private data fields for a superclass, they can only be “accessed through public accessors/mutators” in the superclass (Liang, 2019, sect 11.2). Within Java, there is no such thing as multiple inheritance, only single (Liang, 2019). When using inheritance, be mindful of the is-a relationship and avoid reusing methods when they do not make sense within inheritance. If inheritance is not specified, then Object becomes the default superclass. For example, class Student extends Object { is the same as class Student {.

Another one of Java’s features is the ArrayList. An ArrayList class is utilized in Java to store an unlimited amount of objects (Liang, 2019, sect 11.11). Many methods can be invoked with an ArrayList. Some of these methods include add(e), which adds elements; remove (o), which removes the first element o from the list; clear (), which clears all elements for a list; and size(0), which returns the list size(Liang, 2019, sect 11.11). Elements can also be targeted at specific points like set(index, e) sets the element at the specified index (Liang, 2019, sect 11.11). To use ArrayList, the java. util.ArrayList must be imported at the beginning of the code.

GeeksforGeeks demonstrates how the array list is created and how to add elements.

*// Java Program to demonstrate ArrayList*

**import** **java.util.ArrayList**;

**class** **Main** {

**public** **static** void main (String[] args) {

*// Creating an ArrayList*

ArrayList<Integer> a = **new** ArrayList<Integer>();

*// Adding Element in ArrayList*

a.add(1);

a.add(2);

a.add(3);

*// Printing ArrayList*

System.out.println(a);

}

}

**References**

Geeksforgeeks. (2016, October 6). *ArrayList in Java*. GeeksforGeeks. https://www.geeksforgeeks.org/arraylist-in-java/

Liang, Y. D. (2019). *Introduction to Java programming and data structures: comprehensive version*. Pearson. https://plus.pearson.com/home?utm\_source=ereader

**Assignment Requirements and Grading:**

* An initial post of approximately 250 words is due by **Thursday, 11:59 p.m., CST**.
* Submit your post by clicking on the assignment link above, then Create Thread. You must create a thread in order to view your peers' posts. Tip: Create your post in a Word document and then copy and paste your work into the thread.
* A minimum of three (3) responses, to the original threads of other students, of 100-200 words each are due by **Sunday, 11:59 p.m., CST**.
* To view the rubric grading criteria, click on the following link: [Discussion Board Grading Rubric.](https://content.bellevue.edu/cst/csd/rubricdbv3.pdf)