DAY-3/4 Exercises

Do the research on the following topics:

1. Advantages of using ArrayList over Arrays.
2. [ArrayList Vs LinkedList In Java](http://javaconceptoftheday.com/arraylist-vs-linkedlist-java/)
3. [HashMap Vs HashSet In Java](http://javaconceptoftheday.com/differences-between-hashmap-vs-hashset-in-java/)
4. [Iterator Vs ListIterator In Java](http://javaconceptoftheday.com/difference-between-iterator-and-listiterator-in-java/)
5. [HashSet Vs LinkedHashSet Vs TreeSet In Java](http://javaconceptoftheday.com/hashset-vs-linkedhashset-vs-treeset-in-java/)
6. [HashMap Vs HashTable In Java](http://javaconceptoftheday.com/differences-between-hashmap-and-hashtable-in-java/)
7. What is difference between Iterator ,ListIterator and Enumeration?
8. Compareable vs Comparator

**Java Collection: ArrayList Exercises**

1. Write a Java program to create a new array list, add some colors (string) and print out the collection.

2. Write a Java program to iterate through all elements in a array list.

3. Write a Java program to insert an element into the array list at the first position

4. Write a Java program to retrieve an element (at a specified index) from a given array list.

5. Write a Java program to update specific array element by given element.

6. Write a Java program to remove the third element from a array list.

7. Write a Java program to search an element in a array list.

8. Write a Java program to sort a given array list.

9. Write a Java program to copy one array list into another.

10. Write a Java program to shuffle elements in a array list.

11. Write a Java program to reverse elements in a array list.

12. Write a Java program to extract a portion of a array list.

13. Write a Java program to compare two array lists.

14. Write a Java program of swap two elements in an array list.

15. Write a Java program to join two array lists.

16. Write a Java program to clone an array list to another array list.

17. Write a Java program to empty an array list.

18. Write a Java program to test an array list is empty or not.

19. Write a Java program to trim the capacity of an array list the current list size.

20. Write a Java program to increase the size of an array list.

21. Write a Java program to replace the second element of a ArrayList with the specified element.

22. Write a Java program to print all the elements of a ArrayList using the position of the elements.

Create a class “Products” with fields such as product\_name, product\_number and quantity. Use appropriate collection to store minimum 10 product details. Using enum create an option to display product details in sorted order. Menu options are below:

1. Product\_Name

2. Product\_Number

3. Product\_Quantity

User can select any of the option. Display in a tabular format.

Using generic class, collections and method perform the mathematical operations.

Use integer and double arrays.

Generic method must return the result and display in the main method