Object Oriented Programming with Java

Lab Practice:11

1. Create an ArrayList A that utilizes the following methods:
   add(Object element), add(Object element, int index), addAll(Collection B), remove(Object element), remove(Object element, int index), contains(Object o)

   add(Object element) : this will add an element in array.

   add(Object element, int index): This will add an element in the given index

   addAll(Collection B): This is add element of array A and B

   remove(Object element): this will remove an element from arrayList

   remove(Object element, int index): This will remove an element from the given index

   contains(Object o): this is compare two arrayList A and B and store the output in binary

   Ex: A = [“Hello”, “hi”, “Good”]

   B = [“Hi”, “Bad”, “Good”]

   Output = [No, No, Yes] or [0, 0 , 1]

   Finally, create an iterator and print all the elements in the ArrayList.

2. Lets say we have an Author class has data members: Author name, book name and author age, now if we want to sort the objects based on any of the data member then we can use Comparable but **what if we want to have multiple sort choices and we can sort objects based on any choice**, this can be done using Comparator interface, we can create as many Comparator as we want and then we can call Collections.sort on one or more Comparator like this:

```
//Sorting arraylist al by Author Age
        Collections.sort(al, new AuthorAgeComparator());

//Sorting arraylist al by Book Name

        Collections.sort(al, new BookNameComparator());
```

Create a class Author:

```
public class Author implements Comparable<Author> {
        String firstName;
       String bookName;
        int auAge;
……..
…….
…….
}
class AuthorAgeComparator implements Comparator<Author>{
……..
…….
}

public class BookNameComparator implements Comparator<Author>{
……..
……..
}
```