Assignment 6
Generic List Operations

1. Create a generic class called **GenericList<T>** that represents a list of elements of type T. Implement the following methods within the GenericList class:
   a. void add(T element): Add an element to the list.
   b. T get(int index): Retrieve an element at a given index.
   c. int size(): Return the number of elements in the list.
   d. void remove(T element): Remove an element from the list by its value.
   e. void reverse(): Reverse the order of elements in the list.
   f. T findMax(Comparator<T> comparator): Find and return the maximum element in the list using the provided comparator.
2. Next, create a separate Java class called FirstNameLastNameA6 that includes a main method.In the main method, do the following:
   a. Create a **GenericList** of type Integer and add at least five integers to it. No user input required. Add any 5 integers using the add method defined in 1(a). Display this list using the get method defined in 1(b). Hint : for displaying all elements of the list, use the size method in 1(c) to check the length of the list.
   b. Remove a specific integer from the list using the remove method in 1(d).No user input required. Display the list after removal , using the get and size method defined earlier.
   c. Reverse the list using the reverse method.Display the list after reversal.
   d. Create a **GenericList** of type String and add at least five strings to it. No user input required. Add any 5 string elements using the add method defined in 1(a). Display the original string list again using the get and size method.
   e. Use the findMax method to find and display the maximum string (based on lexicographic order). Lexicographic refers to the order or arrangement of words, letters, or symbols based on their standard alphabetical or dictionary order
3. Conclude the main method with a "Program Completed" statement.

   Note :
   a. Do not create a separate file for both classes. Include both class in a single file named FirstNameLastNameA6.java
   b. Make sure that the method signatures are as specified in question 1.
   c. You can use any string or list API as required for implementing question 1. The aim of this assignment is to check the knowledge of a Generic type in java.
   d. No need to take user inputs for the program. You can hardcode values in the code itself. Test using different values.
   e. Submit only your FirstNameLastNameA6.java file.
   f. Your output should match the following response.

```
PS C:\Users\majit\Desktop\SCU\JAVA TA\TA-assignment6\untitled\src> java MajiTuhinaA6
Original Integer List:
5
3
8
2
10
List after removing '3':
5
8
2
10
Reversed Integer List:
10
2
8
5
Original String List:
apple
banana
cherry
date
fig
Maximum String: fig

Program Completed.
PS C:\Users\majit\Desktop\SCU\JAVA TA\TA-assignment6\untitled\src>
```