

Marks: ____ out of 10

1. Suppose you have a Linear Array of size elements. Write down the insertUnique() method which inserts the given element in the given index of the array only if it is unique. **Do nothing if the element already exists in the array.** Again, note that "size" is the number of elements in the array, which may be less than the capacity. [5 marks]

```
/**
 * Inserts an element in the given index only if it is unique. Do
 * nothing if the element already exists in the array.
 * @param a the linear array.
 * @param size the number of elements in the array (size <= a.length)
 * @param elem the element to be inserted
 * @param idx the index where the element to be inserted
 * @throws noSpaceLeftException the array is already full
 */
public static void insertUnique(Object[] a, int size, Object elem, int idx) {
    // TO DO
}
```

2. Suppose you have a Circular Array of n elements which starts at index start. Write the method printReverse() which prints all the elements of the circular array in reverse order. Again, note that "n" is the number of elements in the array, which may be less than the capacity. [5 Marks]

```
/**
 * Print the elements in the circular array in the reverse order.
 * @param c the circular array.
 * @param n the number of elements in the array (n <= c.length).
 */
public static void printReverse(Object[] c, int n) {
    // TO DO
}
```