Array-based Lists

Recall the SortedIntList class we developed in lecture before we developed the GenericList. Write an instance method for the SortedIntList class which inserts an element into the list. The list must be in sorted order before and after this operation.

Complete the following method.

```java
// Adds an element to this list
// pre: val != null, con is sorted from 0 to size - 1
// post: val is inserted at the correct place in the list
public void insert(int val)
```

Here are some example calls to `insert()`:

- `[2, 3, 4, 5].insert(1) → [1, 2, 3, 4, 5]
- `[1, 2, 4, 5].insert(3) → [1, 2, 3, 4, 5]
- `[].insert(7) → [7]
- `[1, 2, 3].insert(4) → [1, 2, 3, 4]

Your method will be in the following SortedIntList class:

```java
public class SortedIntList{
    private int size;
    private int[] con;
    // ...
}
```

Do not use or assume there are any provided methods in the SortedIntList class. Do not use any other Java classes or methods.
// Adds an element to this list
// pre: val != null, con is sorted from 0 to size - 1
// post: val is inserted at the correct place in the list
public void insert(int val) {