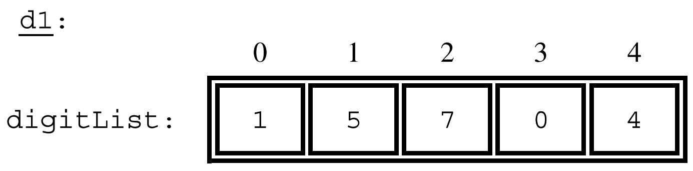
1. This question involves identifying and processing the digits of a non-negative integer. The declaration of the `Digits` class is shown below. You will write the constructor and one method for the `Digits` class.

```
public class Digits
{
    /** The list of digits from the number used to construct this object.
     *  The digits appear in the list in the same order in which they appear in the original number.
     */
    private ArrayList<Integer> digitList;

    /** Constructs a Digits object that represents num.
     *  Precondition: num >= 0
     */
    public Digits(int num)
    {  /* to be implemented in part (a) */  }

    /** Returns true if the digits in this Digits object are in strictly increasing order;
     *          false otherwise.
     */
    public boolean isStrictlyIncreasing()
    {  /* to be implemented in part (b) */  }
}
```

(a) Write the constructor for the `Digits` class. The constructor initializes and fills `digitList` with the digits from the non-negative integer `num`. The elements in `digitList` must be `Integer` objects representing single digits, and appear in the same order as the digits in `num`. Each of the following examples shows the declaration of a `Digits` object and the contents of `digitList` as initialized by the constructor.

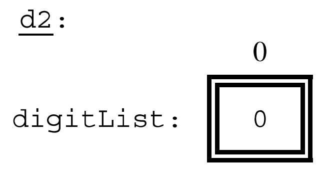
Example 1

```
Digits d1 = new Digits(15704);
```



Example 2

```
Digits d2 = new Digits(0);
```



WRITE YOUR SOLUTION ON THE NEXT PAGE.

Complete the `Digits` constructor below.

```
/** Constructs a Digits object that represents num.
 *  Precondition: num >= 0
 */
public Digits(int num)
```

(b) Write the `Digits` method `isStrictlyIncreasing`. The method returns `true` if the elements of `digitList` appear in strictly increasing order; otherwise, it returns `false`. A list is considered strictly increasing if each element after the first is greater than (but not equal to) the preceding element.

The following table shows the results of several calls to `isStrictlyIncreasing`.

Method call	Value returned
`new Digits(7).isStrictlyIncreasing()`	`true`
`new Digits(1356).isStrictlyIncreasing()`	`true`
`new Digits(1336).isStrictlyIncreasing()`	`false`
`new Digits(1536).isStrictlyIncreasing()`	`false`
`new Digits(65310).isStrictlyIncreasing()`	`false`

WRITE YOUR SOLUTION ON THE NEXT PAGE.

Complete method `isStrictlyIncreasing` below.

```
/** Returns true if the digits in this Digits object are in strictly increasing order;
 *         false otherwise.
 */
public boolean isStrictlyIncreasing()
```