### ****5. Mutable and Immutable Variables****

* **Mutable Variables**:
  + A **mutable variable** is a variable whose value can change after it is created. In Java, objects of classes like ArrayList, HashMap, and StringBuilder are mutable.
  + **Example**:

ArrayList<Integer> numbers = new ArrayList<>();

numbers.add(1); // The ArrayList has been modified

* **Immutable Variables**:
  + An **immutable variable** is a variable whose value cannot change once it has been assigned. In Java, the String class is immutable, meaning once a string is created, its value cannot be changed.
  + **Example**:

String name = "John";

name = "Doe";

// A new String object is created, original "John" is not modified

* **Difference**:
  + **Mutable** objects can be modified after they are created, whereas **immutable** objects cannot. In Java, attempting to change an immutable object results in creating a new object with the modified value.