```java
public class StormTrooper {

    // Static variable to keep track of total number of storm troopers
    private static int numStormTroopers = 0;
    // Static variables to store the minimum and maximum storm trooper ages
    private static final int MIN_AGE = 18;
    private static final int MAX_AGE = 50;
    // Instance variables to store storm trooper's name, rank, and weapon
    private String name;
    private String rank;
    private String weapon;

    // Constructor method
    public StormTrooper(String name, String rank, String weapon) {
        this.name = name;
        this.rank = rank;
        this.weapon = weapon;
        numStormTroopers++;
    }

    // Static method to get the total number of storm troopers created
    public static int getNumStormTroopers() {
        return numStormTroopers;
    }

    // Instance method to get the storm trooper's name
    public String getName() {
        return name;
    }

    // Instance method to set the storm trooper's weapon
    public void setWeapon(String weapon) {
        this.weapon = weapon;
    }

    // Instance method to make the storm trooper shoot
    public void shoot() {
        System.out.println(rank + " " + name + " is shooting with a " + weapon);
    }

    // Static utility method to check if a given age is valid for a storm trooper
    public static boolean isValidAge(int age) {
        return age >= MIN_AGE && age <= MAX_AGE;
    }

    // Static utility method to generate a random storm trooper rank
    public static String getRandomRank() {
        String[] ranks = {"Private", "Corporal", "Sergeant", "Lieutenant", "Captain", "Major", "Colonel"};
        int index = (int) (Math.random() * ranks.length);
        return ranks[index];
    }
}
```

Informática II - Prepa Tec Campus Eugenio Garza Lagüera
Actividad 8: StormTrooper Class

Resuelve el siguiente ejercicio, y sube las clases resultante StormTrooper y StormTrooperTest a Canvas.

1. Open the `StormTrooper.java` file that contains the `StormTrooper` class.
2. Review the class definition and make sure you understand the purpose of each instance and static variable and method.
3. Add the missing setter and getter methods for the instance variables of class `StormTrooper.java`.
4. Create a new Java file called `StormTrooperTest.java` and define a `main` method inside it.
5. Inside the `main` method, create two instances of the `StormTrooper` class using the constructor method. Assign a random rank to teach of the StormTrooper instances by using the static method `getRandomRank` and the rank setter method.
6. Call the `shoot` instance method on each instance to make them shoot their weapons.
7. Print the name and rank properties of each instance using their `getName` and `getRank` instance methods.
8. Call the `getNumStormTroopers` static method to get the total number of storm troopers created so far. Print the result.
9. Create another instance of the `StormTrooper` class and set its properties using the instance methods.
10. Call the `getNumStormTroopers` static method again and print the result to verify that it has increased by one.