S20: ArrayLists Methods Activity

DIRECTIONS : Fill in each blank with the correct answer/output. Assume each statement happens in order and that one statement may affect the next statement.
You may run this in your IDE to see how the program works using the Student class/data type. (You'll need to add a main() method and import the ArrayList package to use its methods.)

```
public class Student{
   private String name;
   private int age;

   public Student(String n, int a){
      name = n;
      age = a;
   }

   public String toString(){
      return name + " is " + age + " years old";
   }
}

ArrayList<Student> rayList = new ArrayList< Student
>(); rayList.add(new Student("Samuel", 16));
rayList.add(new Student("Sam", 15));
rayList.add(new Student("Bob", 13));
rayList.add(new Student("Susan", 14));
rayList.add(new Student("Joe", 17));


System.out.println(rayList.get(0)); // LINE 1

System.out.println(rayList.get(1)); // LINE 2

System.out.println(rayList.get(2)); // LINE 3

System.out.println(rayList.size()); // LINE 4



System.out.println(rayList.remove(0)); // LINE 5

System.out.println(rayList); // LINE 6

System.out.println(rayList.remove(1)); // LINE 7

System.out.println(rayList); // LINE 8
```

1. Samuel is 16 years old

2. Sam is 15 years old

3. Bob is 13 years old

4. 5

5. Samuel is 16 years old

6. ["Sam is 15 years old", "Bob is 13 years old", "Susan is 14 years old", "Joe is 17 years old"]

7. Bob is 13 years old

8. ["Sam is 15 years old", "Susan is 14 years old", "Joe is 17 years old"]

DIRECTIONS : Fill in each blank with the correct answer/output. Assume each statement happens in order and that one statement may affect the next statement. *Hand trace this code instead of using your IDE.*

```
String s = "123abc456def789";
ArrayList<String> r = new ArrayList<String>();
r.add("aec");
r.add("cba");
r.set(1,"987");
r.add("xyz");
r.add("135");
Collections.sort(r);// you'll need to search how to use this
r.remove(2);


System.out.print( s.substring(0,1) );      // LINE 1

System.out.print( s.substring(2,3) );      // LINE 2

System.out.print( s.substring(5,6) );      // LINE 3

System.out.print( r.get(0) );              // LINE 4

System.out.print(r.get(0).substring(0,1)); // LINE 5

System.out.print( r.get(2) );              // LINE 6

System.out.print( r.indexOf("123"));      // LINE 7

System.out.print( r.contains("abc"));     // LINE 8

System.out.print( r.isEmpty());           // LINE 9
```

1. 1
2. 5
3. a
4. 135
5. 1
6. xyz
7. -1
8. false
9. false

```
r.set(1, "\\\\");
System.out.print(r);          // LINE 10

r.remove(1);
System.out.print(r);          // LINE 11

r.add("one");
System.out.print(r);          // LINE 12

r.add(0,"five");
System.out.print(r);          // LINE 13

r.clear();
System.out.print(r);          // LINE 14
```

10. ["135", "\\\\", "xyz"]
11. ["135", "xyz"]
12. ["135", "xyz", "one"]
13. ["five", "135", "xyz", "one"]
14. []