# 03. Elephant Sanctuary

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## Preparation

Download the skeleton provided in Judge. **Do not** change the **packages**!

**Pay attention to the name of the package (sanctuary), all the classes, their fields, and methods the same way they are presented in the following document. It is also important to keep the project structure as described.**

## Problem description

Your task is to create a repository that stores items by creating the classes described below.

First, write a Java class **Elephant** with the following fields:

* **name: String**
* **age: int**
* **retiredFrom: String**

The class **constructor** should receive a **name, age,** and **the place where the elephant was retired from.** You need to create the appropriate **getters and setters**. The class should override the **toString()** method in the following format:

**"{name} {age} - {retiredFrom}"**

**Next**, write a Java class **Habitat** that has **data** (a collection, which stores the Elephants in the Sanctuary). All entities inside the repository have the **same fields**. Also, the **Habitat** class should have those fields:

* **capacity: int**

The class **constructor** should receive **capacity**. Also, it should initialize the **data** with a new collection instance**.** Implement the following features:

* Field **data** – **List** that holds added elephants
* Method add(Elephant elephant) – **adds** an **entity** to the data **if** **there** **is** an **empty space** for the elephant.
* Method remove(String name) – removes the elephant by **given name,** if such **exists**, and **returns boolean**.
* Method **getElephant(String retiredFrom)** – returns the elephant **retired from the given place** or **null if no such elephant exists**.
* Method getOldestElephant() – returns the oldest Elephant.
* Getter getAllElephants() – **returns** the **number** of elephants.
* **getReport()** – **returns** a **String** in the following **format**:

**"Saved elephants in the park:  
 {name} came from: {retiredFrom}  
 {name} came from: {retiredFrom}  
 (…)**"

## Constraints

* The **age** of the elephants will always be a **positive number**.

## Examples

This is an example of how the **Habitat** class is **intended to be used**.

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| Sample code usage |
| // Initialize the repository Habitat park = new Habitat(10);  // Initialize entity Elephant firstElephant = new Elephant("Bobby", 10, "Thailand Zoo"); // Print Elephant System.*out*.println(firstElephant); //Bobby 10 - Thailand Zoo  // Add Elephant park.add(firstElephant);  // Remove Elephant System.*out*.println(park.remove("Bobby")); //true System.*out*.println(park.remove("Lola")); //false Elephant secondElephant = new Elephant("Bibi", 5, "Private Zoo"); Elephant thirdElephant = new Elephant("Lola", 7, "National Circus of Thailand"); park.add(secondElephant); park.add(thirdElephant);  // Get Oldest Elephant Elephant oldest = park.getOldestElephant(); System.*out*.println(oldest); //Lola 7 - National Circus of Thailand  Elephant elephant = park.getElephant("Private Zoo"); System.*out*.println(elephant); //Bibi 5 - Private Zoo  // All elephants in the park System.*out*.println(park.getAllElephants()); //2  // Information Report System.*out*.println(park.getReport());  //Saved elephants in the park:  //Bibi came from: Private Zoo  //Lola came from: National Circus of Thailand |

## Submission

Submit a **single .zip file** containing the **sanctuary package, with the classes inside (Elephant, Habitat, and the Main class)**, and there is no specific content required inside the Main class e. g. you can do any local testing of your program there. However, there should be a **main(String[] args)** method inside.