Final Lab: Zoo Management System

Objectives: Design and implement a Zoo Management System using C++ Object-Oriented Programming principles like inheritance, polymorphism, and composite pattern.

In the zoo, there are different types of animals (e.g., Lion, Elephant, Giraffe). Define animal with attributes like identifier, name, species, diet. They can eat their own food in kilogram(s).

Animals are brought to live and be protected for the rest of their lives in some enclosures. The Enclosure is with attributes like name, type (e.g., Savannah, Forest, Aquarium). A Large Enclosure can be composed of smaller enclosures (e.g., a zoo can have a “Primate Area” composed of several monkey enclosures, or “Jungle Area”).

**When you add animal to enclosure, remember to check if animal is compatible with that!*

Requirements

a) (4.0p) Define above classes
b) (2.0p) Input Zoo information with Enclosures and Animals
c) (1.0p) Given a name of large enclosure, print all details of animals in that enclosure.
d) (1.0p) Given animal's unique identifier, remove that animal from the Zoo
e) (2.0p) Draw UML diagram showing the class structure and relationships.

Regulations

- Organize the source code into .h and .cpp files.
- Students submit their work on Moodle.

- Delete unnecessary files and compress the project into a single file named **`MSSV-XX.zip`** (where ***`XX`*** is a prefix defined by the instructor)
- All identical submissions will receive a 0 for the course!