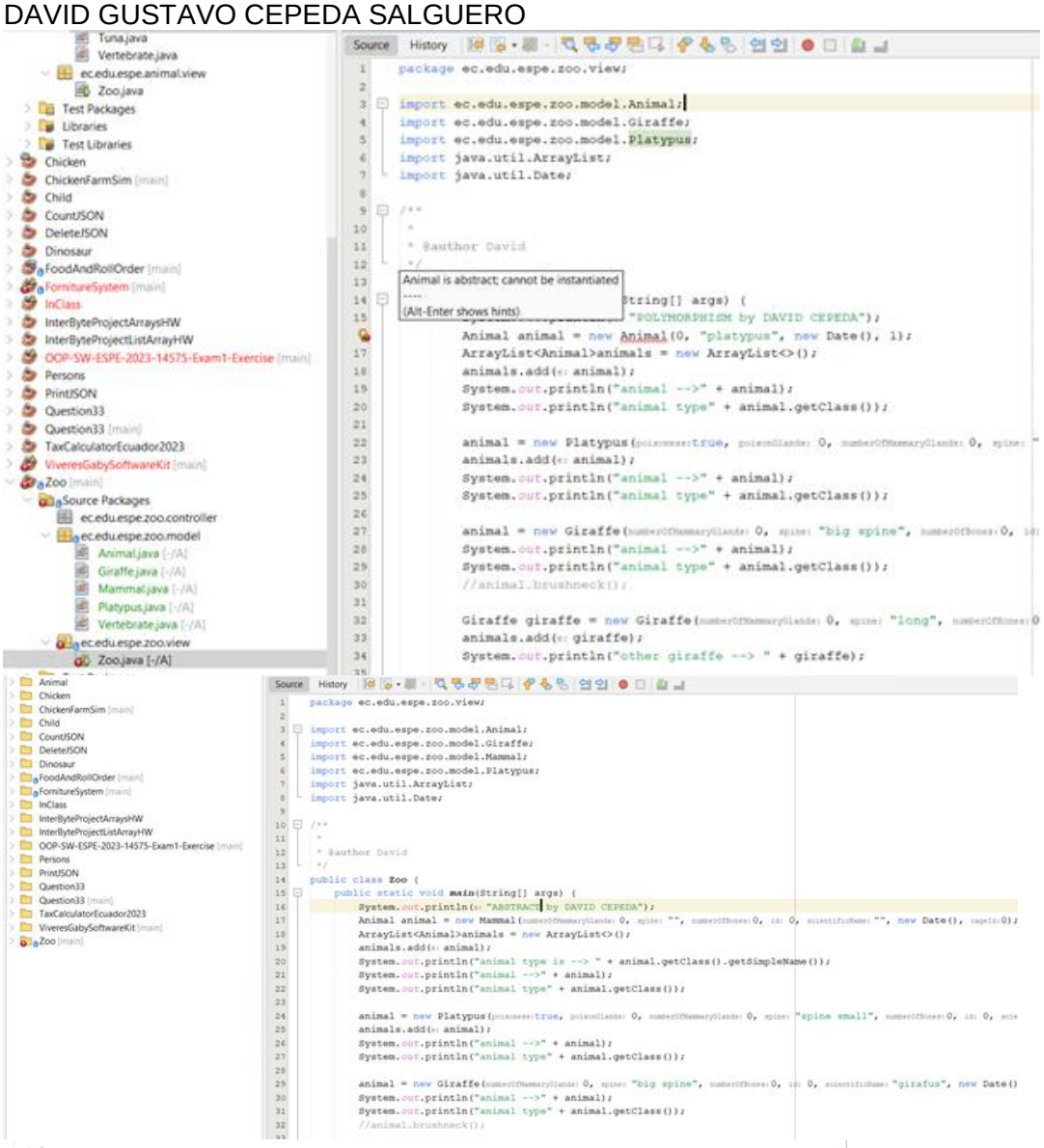
Universidad de las Fuerzas Armadas

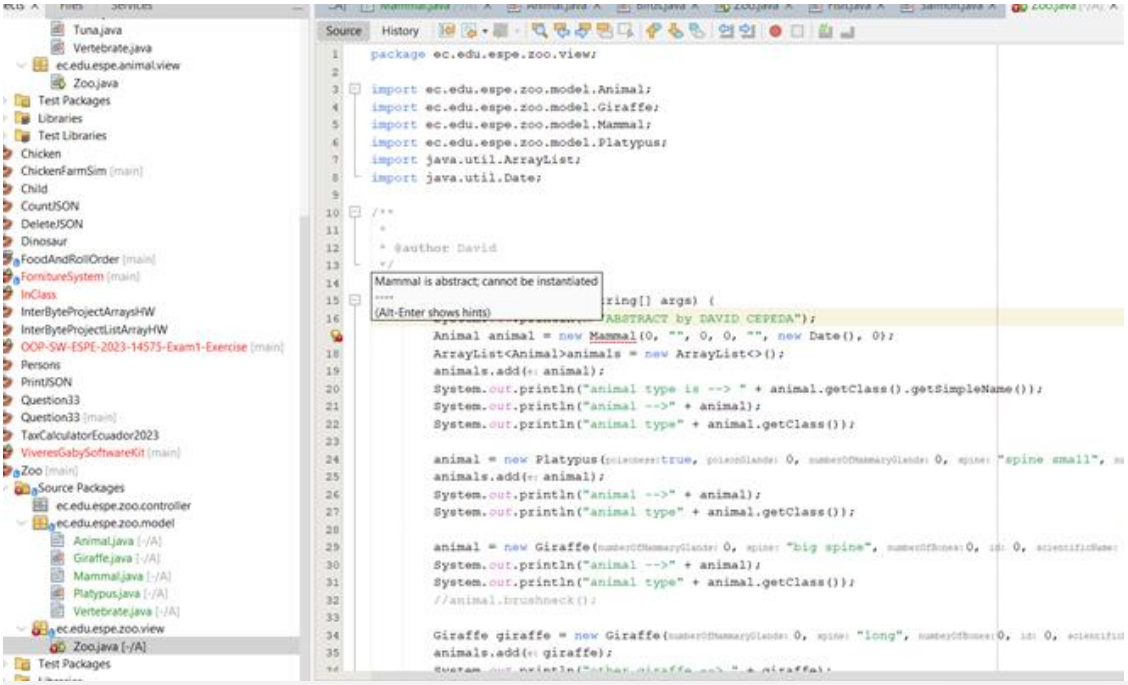
CLASS NAME :*OBJECT ORIENTED PROGRAMMING* ***TEACHER:*** *EDISON LASCANO*
NRC: *14575* ***WORKSHOP #:*** *28*
TOPIC: Abstraction

1. DAVID GUSTAVO CEPEDA SALGUERO




```
*/
public class Zoo {
    public static void main(String[] args) {
        System.out.println(x: "ABSTRACT by DAVID CEPEDA");
        Animal animal = new Giraffe(numberOfMammaryGlands: 0, spine: "", numberOfBones: 0, id: 0, scientificName: "", new Date(), c
        ArrayList<Animal>animals = new ArrayList<>();
        animals.add(e: animal);
        System.out.println("animal type is --> " + animal.getClass().getSimpleName().toString());
        System.out.println("animal -->" + animal);
        System.out.println("animal type" + animal.getClass());

        animal = new Platypus(poisonous:true, poisonGlands: 0, numberOfMammaryGlands: 0, spine: "spine small", numberOfBones: 0, id: 0,
```


Tuna.java
Vertebrate.java
ec.edu.espe.animal.view
Zoo.java
Test Packages
Libraries
Test Libraries
Chicken
ChickenFarmSim [main]
Child
CountJSON
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Dinosaur
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InClass
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Persons
PrintJSON
Question33
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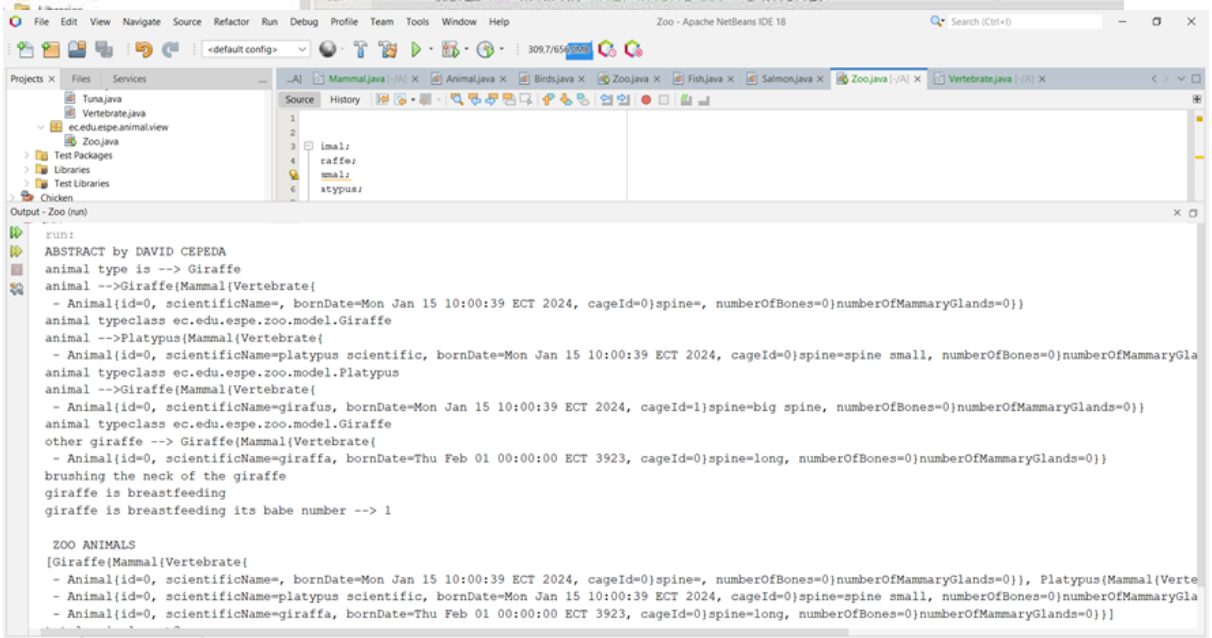
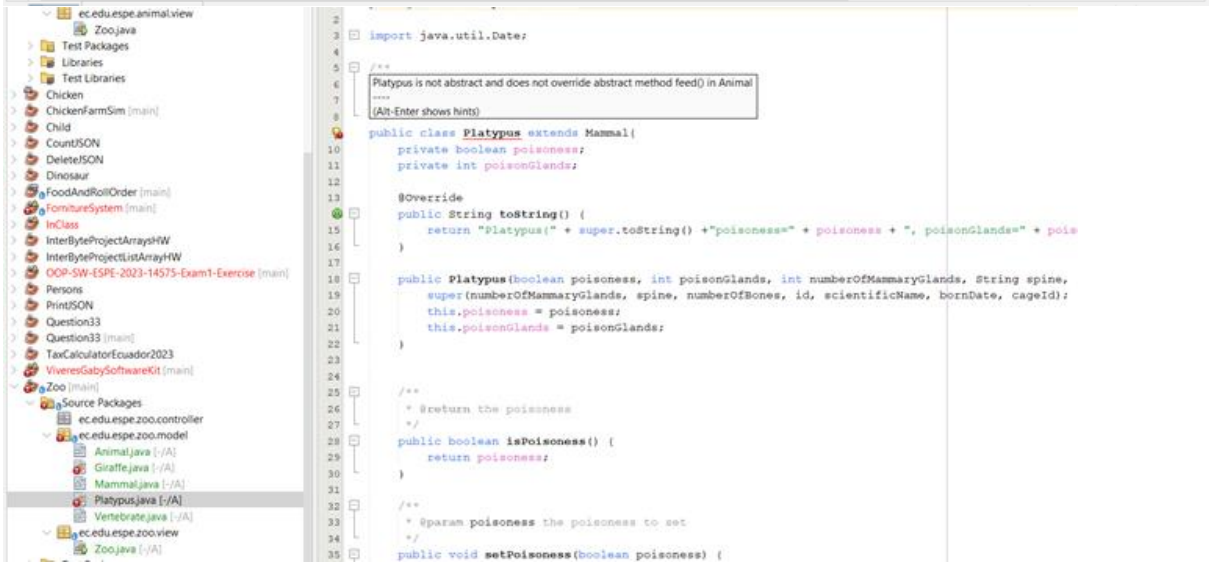
Source Packages
ec.edu.espe.zoo.controller
ec.edu.espe.zoo.model
Animal.java [-/A]
Giraffe.java [-/A]
Mammal.java [-/A]
Platypus.java [-/A]
Vertebrate.java [-/A]
ec.edu.espe.zoo.view
Zoo.java [-/A]
Source
History
package ec.edu.espe.zoo.view;
import ec.edu.espe.zoo.model.Animal;
import ec.edu.espe.zoo.model.Giraffe;
import ec.edu.espe.zoo.model.Mammal;
import ec.edu.espe.zoo.model.Platypus;
import java.util.ArrayList;
import java.util.Date;
/**
* @author David
*/
Mammal is abstract; cannot be instantiated
(Alt-Enter shows hints)
ABSTRACT by DAVID CEPEDA
Animal animal = new Mammal(0, "", 0, 0, "", new Date(), 0);
ArrayList<Animal>animals = new ArrayList<>();
animals.add(animal);
System.out.println("animal type is --> " + animal.getClass().getSimpleName());
System.out.println("animal -->" + animal);
System.out.println("animal type" + animal.getClass());
animal = new Platypus(poisoness:true, poisonGlands: 0, numberOfMammaryGlands: 0, spine: "spine small",
animals.add(animal);
System.out.println("animal -->" + animal);
System.out.println("animal type" + animal.getClass());
animal = new Giraffe(numberOfMammaryGlands: 0, spine: "big spine", numberOfBones: 0, id: 0,
System.out.println("animal -->" + animal);
System.out.println("animal type" + animal.getClass());
//animal.brushneck();
Giraffe giraffe = new Giraffe(numberOfMammaryGlands: 0, spine: "long", numberOfBones: 0, id: 0,
animals.add(giraffe);


File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
Zoo - Apache NetBeans IDE 18
Search (Ctrl+I)
<default config>
Projects
Files
Services
Mammal.java
Animal.java
Birds.java
Zoo.java
Fish.java
Salmon.java
Zoo.java [-/A]
Vertebrate.java [-/A]
Source
History
Output - Zoo (run)
run:
ABSTRACT by DAVID CEPEDA
animal type is --> Giraffe
animal -->Giraffe{Mammal{Vertebrate{
- Animal{id=0, scientificName=, bornDate=Mon Jan 15 10:00:39 ECT 2024, cageId=0}spine=, numberOfBones=0}numberOfMammaryGlands=0}}
animal typeclass ec.edu.espe.zoo.model.Giraffe
animal -->Platypus{Mammal{Vertebrate{
- Animal{id=0, scientificName=platypus scientific, bornDate=Mon Jan 15 10:00:39 ECT 2024, cageId=0}spine=spine small, numberOfBones=0}numberOfMammaryGla
animal typeclass ec.edu.espe.zoo.model.Platypus
animal -->Giraffe{Mammal{Vertebrate{
- Animal{id=0, scientificName=girafus, bornDate=Mon Jan 15 10:00:39 ECT 2024, cageId=1}spine=big spine, numberOfBones=0}numberOfMammaryGlands=0}}
animal typeclass ec.edu.espe.zoo.model.Giraffe
other giraffe --> Giraffe{Mammal{Vertebrate{
- Animal{id=0, scientificName=giraffa, bornDate=Thu Feb 01 00:00:00 ECT 3923, cageId=0}spine=long, numberOfBones=0}numberOfMammaryGlands=0}}
brushing the neck of the giraffe
giraffe is breastfeeding
giraffe is breastfeeding its babe number --> 1
ZOO ANIMALS
[Giraffe{Mammal{Vertebrate{
- Animal{id=0, scientificName=, bornDate=Mon Jan 15 10:00:39 ECT 2024, cageId=0}spine=, numberOfBones=0}numberOfMammaryGlands=0}}, Platypus{Mammal{Verte
- Animal{id=0, scientificName=platypus scientific, bornDate=Mon Jan 15 10:00:39 ECT 2024, cageId=0}spine=spine small, numberOfBones=0}numberOfMammaryGla
- Animal{id=0, scientificName=giraffa, bornDate=Thu Feb 01 00:00:00 ECT 3923, cageId=0}spine=long, numberOfBones=0}numberOfMammaryGlands=0}}]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ec.edu.espe.zoo.model
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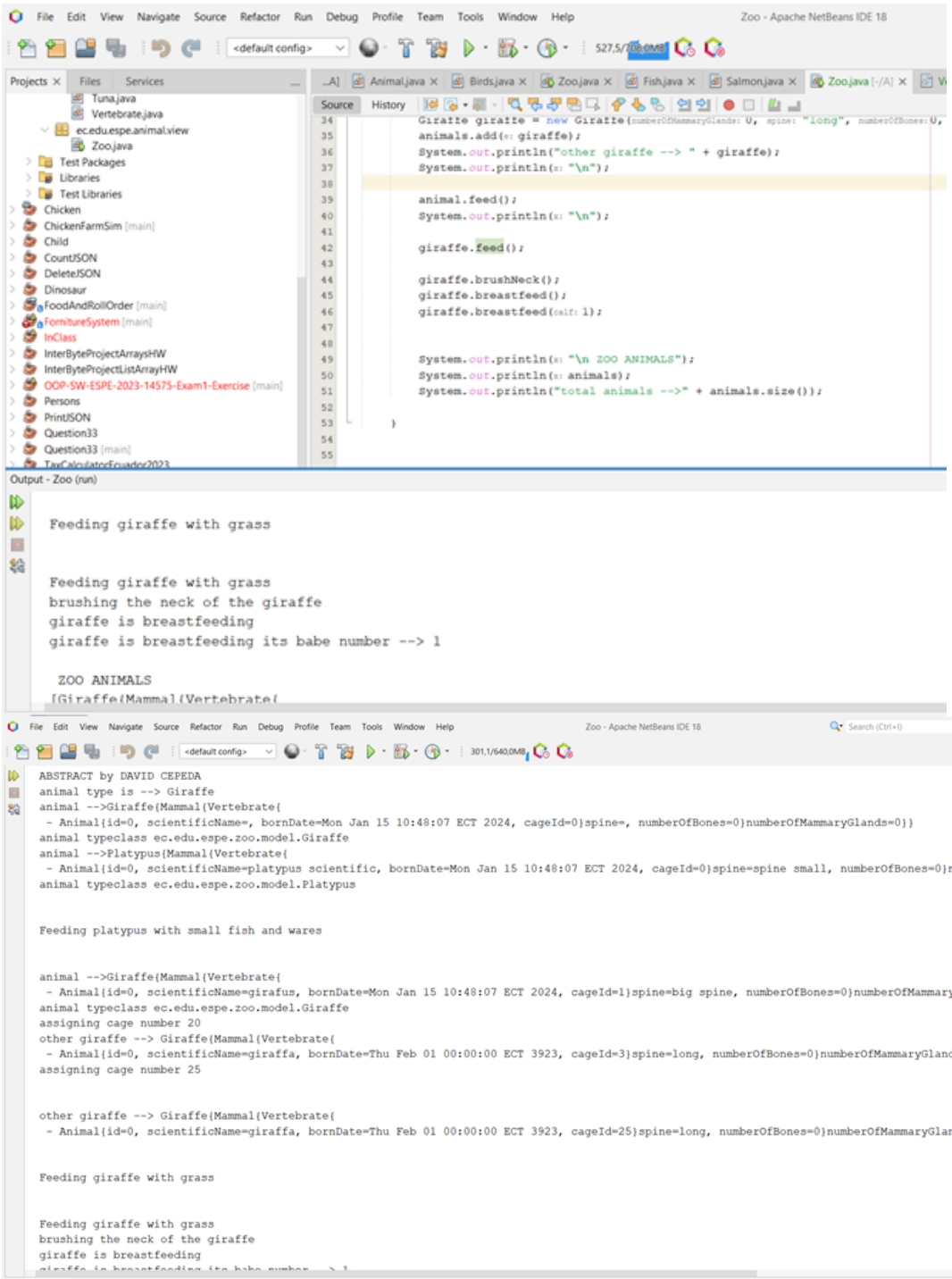
Mammal.java [-/A]
Platypus.java [-/A]
Vertebrate.java [-/A]
ec.edu.espe.zoo.view
Zoo.java [-/A]
import java.util.Date;
/**
Platypus is not abstract and does not override abstract method feed() in Animal
(Alt-Enter shows hints)
public class Platypus extends Mammal{
private boolean poisoness;
private int poisonGlands;
@Override
public String toString() {
return "Platypus(" + super.toString() +"poisoness=" + poisoness + ", poisonGlands=" + pois
}
public Platypus(boolean poisoness, int poisonGlands, int numberOfMammaryGlands, String spine,
super(numberOfMammaryGlands, spine, numberOfBones, id, scientificName, bornDate, cageId);
this.poisoness = poisoness;
this.poisonGlands = poisonGlands;
}
/**
* @return the poisoness
*/
public boolean isPoisoness() {
return poisoness;
}
/**
* @param poisoness the poisoness to set
*/
public void setPoisoness(boolean poisoness) {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Question33
Question33 [main]
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Birds.java
Zoo.java
Fish.java
Salmon.java
Zoo.java
Source
History
Giraffe giraffe = new Giraffe(numberOfMammaryGlands: 0, spine: "long", numberOfBones:0,
animals.add(e: giraffe);
System.out.println("other giraffe --> " + giraffe);
System.out.println(x: "\n");
animal.feed();
System.out.println(x: "\n");
giraffe.feed();
giraffe.brushNeck();
giraffe.breastfeed();
giraffe.breastfeed(calf: 1);
System.out.println(x: "\n ZOO ANIMALS");
System.out.println(x: animals);
System.out.println("total animals -->" + animals.size());
}
Output - Zoo (run)
Feeding giraffe with grass
Feeding giraffe with grass
brushing the neck of the giraffe
giraffe is breastfeeding
giraffe is breastfeeding its babe number --> 1
ZOO ANIMALS
[Giraffe{Mammal{Vertebrate{

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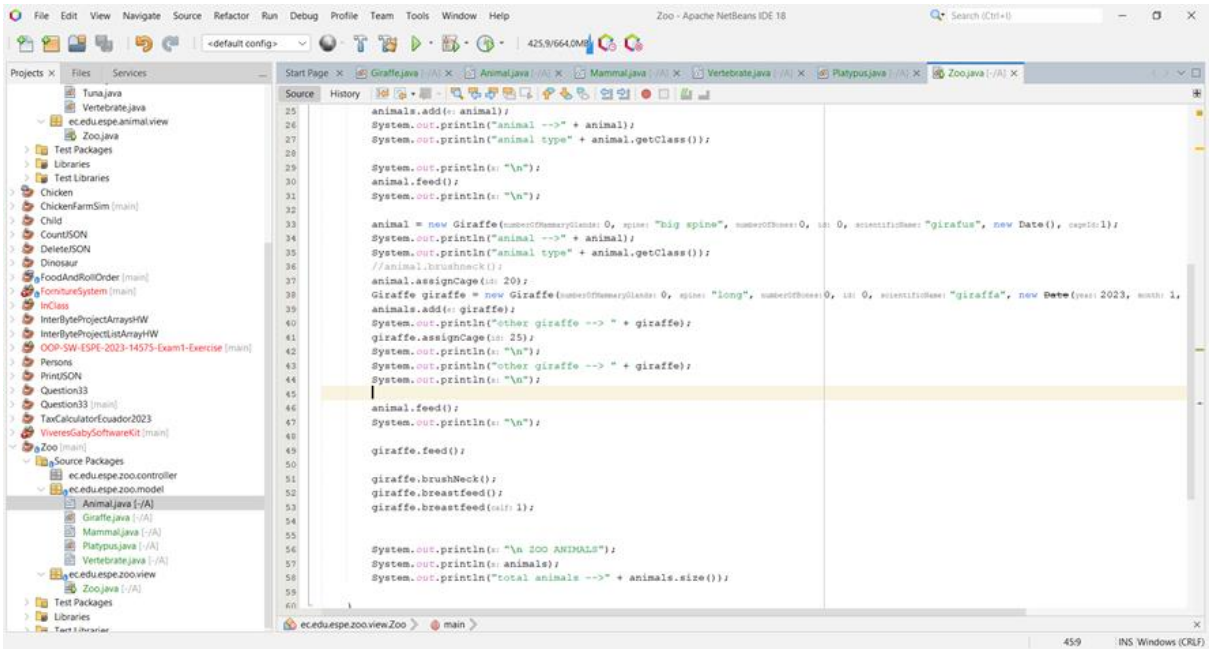
Zoo - Apache NetBeans IDE 18
ABSTRACT by DAVID CEPEDA
animal type is --> Giraffe
animal -->Giraffe{Mammal{Vertebrate{
- Animal{id=0, scientificName=, bornDate=Mon Jan 15 10:48:07 ECT 2024, cageId=0}spine=, numberOfBones=0}numberOfMammaryGlands=0}}
animal typeclass ec.edu.espe.zoo.model.Giraffe
animal -->Platypus{Mammal{Vertebrate{
- Animal{id=0, scientificName=platypus scientific, bornDate=Mon Jan 15 10:48:07 ECT 2024, cageId=0}spine=spine small, numberOfBones=0}numberOfMammaryGla
animal typeclass ec.edu.espe.zoo.model.Platypus
Feeding platypus with small fish and wares
animal -->Giraffe{Mammal{Vertebrate{
- Animal{id=0, scientificName=girafus, bornDate=Mon Jan 15 10:48:07 ECT 2024, cageId=1}spine=big spine, numberOfBones=0}numberOfMammaryGlands=0}}
animal typeclass ec.edu.espe.zoo.model.Giraffe
assigning cage number 20
other giraffe --> Giraffe{Mammal{Vertebrate{
- Animal{id=0, scientificName=giraffa, bornDate=Thu Feb 01 00:00:00 ECT 3923, cageId=3}spine=long, numberOfBones=0}numberOfMammaryGlands=0}}
assigning cage number 25
other giraffe --> Giraffe{Mammal{Vertebrate{
- Animal{id=0, scientificName=giraffa, bornDate=Thu Feb 01 00:00:00 ECT 3923, cageId=25}spine=long, numberOfBones=0}numberOfMammaryGlands=0}}
Feeding giraffe with grass
Feeding giraffe with grass
brushing the neck of the giraffe
giraffe is breastfeeding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Start Page
Giraffe.java
Animal.java
Mammal.java
Vertebrate.java
Platypus.java
Zoo.java
Source
History
animals.add(e: animal);
System.out.println("animal -->" + animal);
System.out.println("animal type" + animal.getClass());
System.out.println(x: "\n");
animal.feed();
System.out.println(x: "\n");
animal = new Giraffe(numberOfMammaryGlands: 0, spine: "big spine", numberOfBones: 0, id: 0, scientificName: "girafus", new Date(), cageId: 1);
System.out.println("animal -->" + animal);
System.out.println("animal type" + animal.getClass());
//animal.brushneck();
animal.assignCage(id: 20);
Giraffe giraffe = new Giraffe(numberOfMammaryGlands: 0, spine: "long", numberOfBones: 0, id: 0, scientificName: "giraffa", new Date(year: 2023, month: 1,
animals.add(e: giraffe);
System.out.println("other giraffe --> " + giraffe);
giraffe.assignCage(id: 25);
System.out.println(x: "\n");
System.out.println("other giraffe --> " + giraffe);
System.out.println(x: "\n");
animal.feed();
System.out.println(x: "\n");
giraffe.feed();
giraffe.brushNeck();
giraffe.breastfeed();
giraffe.breastfeed(calf: 1);
System.out.println(x: "\n ZOO ANIMALS");
System.out.println(x: animals);
System.out.println("total animals -->" + animals.size());
ec.edu.espe.zoo.view.Zoo
main
45:9
INS Windows (CRLF)