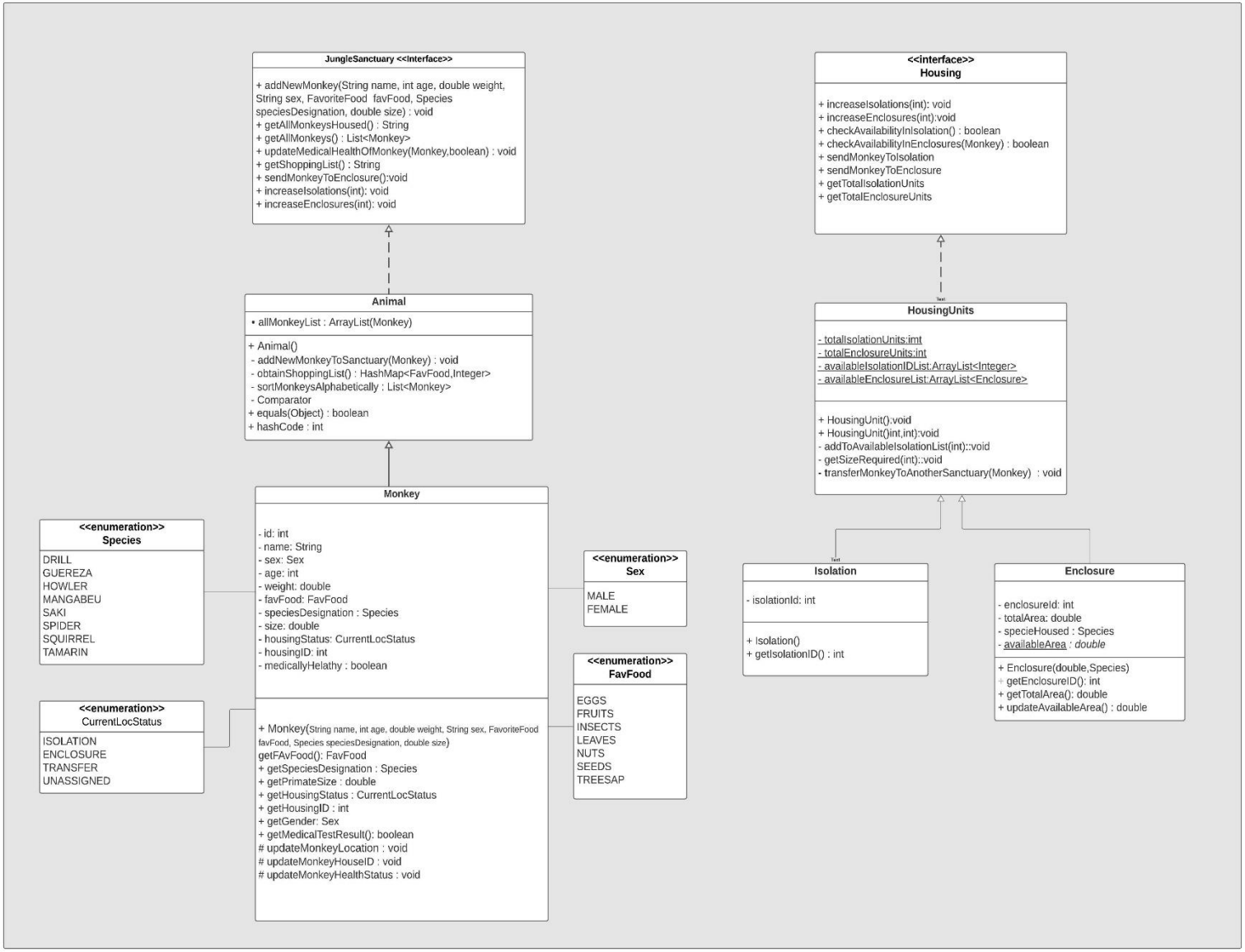
PROJECT 1 - DESIGN REVISION

Primates Sanctuary

UML Diagram:



Notes:

The above picture is the UML diagram for the Jungle Sanctuary project.

1. The project design consists of two Interfaces: **JungleSanctuary** and **Housing**.
2. All the method which client would typically use (related to Primates) are present in the Sanctuary interface and are implemented in the **Animal** class.
3. Monkey class represents a single monkey entity and contains all the attributes related to a monkey.
4. Monkey inherits from the Animal class.
5. Enums are being used to store the values that are constant strings like the Species Designation, Favorite Food, Sex and Location Status.
   Species - DRILL GUEREZA HOWLER MANGABEU SAKI SPIDER SQUIRREL TAMARIN
   FavFood - EGGS FRUITS INSECTS LEAVES NUTS SEEDS TREESAP
   Sex – MALE, FEMALE
   CurrentLocation- ISOLATION, ENCLOSURE, NOT ASSIGNED, TRANSFERRED
6. Primates class has private variables representing:
   name
   age
   sex
   speciesDesignation
   weight
   primateSize
   favFood
7. Apart from the variables provided in the problem statement, I also have few more variables like
   housingStatus – this represents a String variable holding the currentLocation of Monkey
   Acceptable Values are: ISOLATION, ENCLOSURE, NOT ASSIGNED, TRANSFERRED

housingID – this represents Int variable providing us with the unit number of Isolation or Enclosure where the monkey is currently held. Since Isolation and Enclosure are mutually independent values, housingID is same variable for both isolation and enclosure. The combination of housingStatus and housingID would give exact location on the monkey.
medicallyHealthy – this is a Boolean value to represent if the primate has passed the medical test in isolation center.

8. All the methods and test cases are explained in the JavaDoc, which can be found in the repository.

Test Cases:

AnimalTesting Class

`addedMonkeyTransferToIsolation()`	Unit test case for checking if the addNewMonkey() sends monkey to the isolation succesfully.
`addNewMonkeyNegAgeTest()`	Unit test case for checking if the IllegalArgumentException is thrown when age is negative.
`addNewMonkeyNegSizeTest()`	Unit test case for checking if the IllegalArgumentException is thrown when size is negative.
`addNewMonkeyNegWeightTest()`	Unit test case for checking if the IllegalArgumentException is thrown when weight is negative.
`addNewMonkeyNullFoodTest()`	Unit test case for checking if the IllegalArgumentException is thrown when Favorite food is null.
`addNewMonkeyNullSexTest()`	Unit test case for checking if the IllegalArgumentException is thrown when Favorite food is null.
`addNewMonkeyNullSpeciesTest()`	Unit test case for checking if the IllegalArgumentException is thrown when a specieDesignation is null.
`addNewMonkeyTest()`	Unit test case for checking if the IllegalArgumentException is thrown when invalid monkey is added to the sanctuary.

addNewMonkeyToSanctuaryTest()	Unit test case for checking if the addNewMonkey() sends monkey to the list of monkeys that is maintained.
getAllMonkeysHoused()	Unit test case for checking if the getAllMonkeys() displays list of monkeys correctly.
getAllMonkeysTest()	Unit test case for checking if the getAllMonkeys() produces list of monkeys correctly.
getShoppingList()	Unit test case for checking if the getShoppingList() produces shopping list accurately.
getShoppingListMultiplePrimates()	Unit test case for checking if the getShoppingList() produces shopping list accurately when there ate multiple species.
increaseEnclosuresNegTest()	Unit test case for checking if the increaseEnclosures() throws IllegalArgumentException when neg parameter is provided.
increaseIsolationsNegTest()	Unit test case for checking if the increaseIsolations() throws IllegalArgumentException when neg parameter is provided.
lookUpSpeciesMultiplePrimateTest()	Unit test case for checking if the lookUpSpeciesTest() produces list of monkeys belonging to particular specie along with the location.
lookUpSpeciesNotPresentTest()	Unit test case for checking if the lookUpSpeciesTest() throws exception when specie is not found.
lookUpSpeciesTest()	Unit test case for checking if the lookUpSpeciesTest() produces list of monkeys belonging to particular specie along with the location.
produceSignTest()	Unit test case for checking if the produceSign() displays sign correctly for a given enclosure.
sanctuaryCreationNegEnclosuresTest()	Unit test case for checking if the sanctuary object is created for negative enclosures provided case
sanctuaryCreationNegIsolationsTest()	Unit test case for checking if the sanctuary object is created for negative isolations provided case
sendMonkeyToEnclosure()	Unit test case for checking if the sendMonkeyToEnclosure() sends the monkey to enclosure.
sendMonkeyToEnclosureTwoSpecies()	Unit test case for checking if the sendMonkeyToEnclosure() sends multiple monkeys to enclosure.
setup()	Method for initializing object of Monkey class to be used in multiple test cases.
updateMedicalHealthOfMonkeyTest()	Unit test case for checking if the updateMedicalHealthOfMonkey() updates the medical status of the monkey correctly.

HousingTesting Class

Method	Description
increaseEnclosuresNeg()	Unit test case for checking if increaseIsolations() throw the IllegalArgumentException when the number of enclosures provided is negative.
increaseEnclosuresTest()	Unit test case for checking if the increaseEnclosures() increases the number of enclosures.

increaseIsolationsNegTest()	Unit test case for checking if increaseIsolations() throw the IllegalArgumentException when the number of isolations provided is negative.
increaseIsolationsTest()	Unit test case for checking if the increaseIsolations() increases the number of isolations.
primate()	Method to create object of JungleSanctuary.
setUp()	Method for initializing object of HousingUnit and JungleSanctuary class to be used in multiple test cases.
testCheckAvailabilityInEnclosuresNegCase()	Unit test case for checking if checkAvailabilityInEnclosures() returns false when there is no space in enclosure.
testCheckAvailabilityInEnclosuresNullCase()	Unit test case for checking if checkAvailabilityInEnclosures() returns true when there is space in enclosure.
testCheckAvailabilityInIsolation()	Unit test case for checking if checkAvailabilityInIsolation() returns true when there is space in isolation.
testCheckAvailabilityInIsolationNeg()	Unit test case for checking if checkAvailabilityInIsolation() returns false when there is no space in isolation.
testSendMonkeyToIsolation()	Unit test case for checking if sendMonkeyToIsolation() send monkey to isolation.
testSendMonkeyToIsolationFromEnc()	

EnclosureTest

Method	Description
enclosure (double area, Species s)	Method to create object of enclosure.
EnclosureNegAreaTest()	Unit test case for checking if the IllegalArgumentException is thrown when a total area threshold is negative.
EnclosureSpecieNullTest()	Unit test case for checking if the IllegalArgumentException is thrown when a designated species is null.
getAvailableAreaTest()	Unit test case for checking if the getAvailableAreaTest() method to see if it returns accurate available area.
getEnclosureIDTest()	Unit test case for checking if the ID is generated correctly.
getSpecieHousedTest()	Unit test case for checking if the getSpecieHousedTest() method to see if it returns accurate specie type.
primate()	Method to create object of JungleSanctuary.
setup()	Method for initializing object of Enclosure class to be used in multiple test cases.
updateAvailableAreaDecrease()	Unit test case for checking if the updateAvailableAreaDecrease() method to see if it decreases the area of the enclosure based on the value provided.
updateAvailableAreaIncrease()	Unit test case for checking if the updateAvailableAreaIncrease() method to see if it decreases the area of the enclosure based on the value provided.

Isolation Test

Method	Description
getIsolationID()	Unit test case for checking if the ID is generated correctly.

setup()	Method for initializing object of Isolation class to be used in multiple test cases.

MonkeyTest

Method	Description
getMonkeyAge()	Unit test case for checking if the getMonkeyAge() returns accurate age.
getMonkeyFavFood()	Unit test case for checking if the getMonkeyFavFood() returns accurate favorite food.
getMonkeyHousingID()	Unit test case for checking if the getMonkeyHousingID() returns accurate housing ID.
getMonkeyID()	Unit test case for checking if the getMonkeyID() returns accurate ID.
getMonkeyLocation()	Unit test case for checking if the getMonkeyLocation() returns accurate housing location.
getMonkeyMedicalStatus()	Unit test case for checking if the getMonkeyMedicalStatus() returns accurate medical status.
getMonkeyName()	Unit test case for checking if the getMonkeyName() returns accurate name.
getMonkeySex()	Unit test case for checking if the getMonkeySex() returns accurate gender.
getMonkeySize()	Unit test case for checking if the getMonkeySize() returns accurate size.
getMonkeyWeight()	Unit test case for checking if the getMonkeyWeight() returns accurate weight.
getSpeciesDesignation()	Unit test case for checking if the getMonkeyName() returns accurate name.
monkeyConstructorNegAgeTest()	Unit test case for checking if the IllegalArgumentException is thrown when age is negative.
monkeyConstructorNegSizeTest()	Unit test case for checking if the IllegalArgumentException is thrown when size is negative.
monkeyConstructorNegWeightTest()	Unit test case for checking if the IllegalArgumentException is thrown when weight is negative.
monkeyConstructorNullFoodTest()	
monkeyConstructorNullSexTest()	Unit test case for checking if the IllegalArgumentException is thrown when Favorite food is null.
monkeyConstructorNullSpeciesTest()	Unit test case for checking if the IllegalArgumentException is thrown when a specieDesignation is null.
monkeyConstructorTest()	Unit test case for checking if the IllegalArgumentException is thrown when gender parameter is null.
primate()	Method to create object of JungleSanctuary.
setup()	Method for initializing object of Monkey class to be used in multiple test cases.
updateMonkeyHealthStatus()	Unit test case for checking if the updateMonkeyHealthStatus() method updates healthStatus of the monkey as provide
updateMonkeyLocation()	Unit test case for checking if the getMonkeyLocation() method throws IllegalStateException when monkey is directly s
updateMonkeyNegHouseID()	Unit test case for checking if the getMonkeyLocation() method throws IllegalArgumentException when neg integer is p