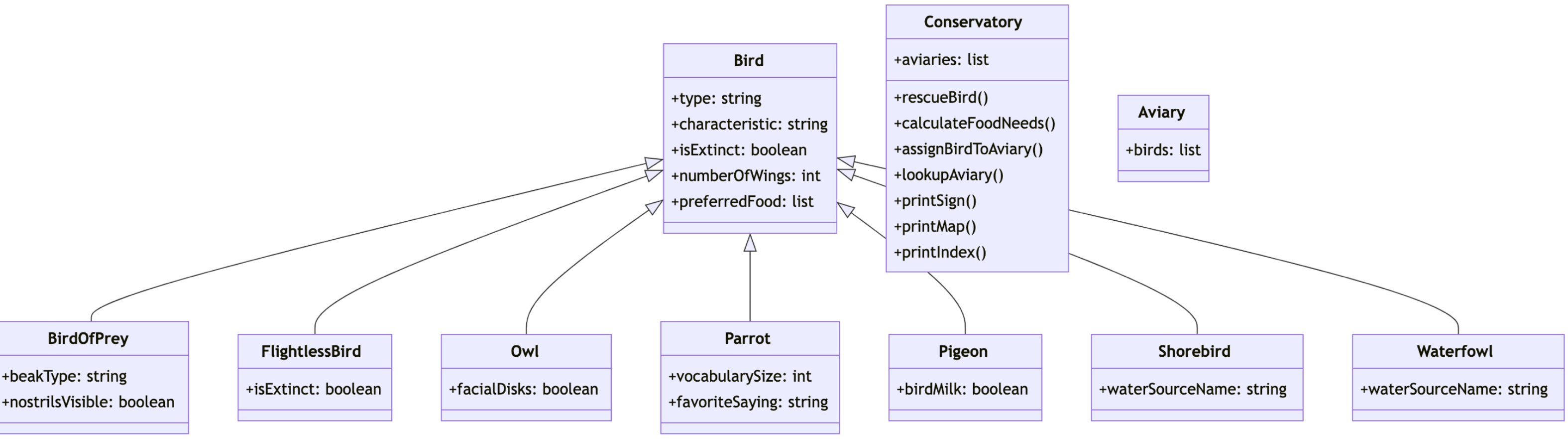

Testing Plan

The test plan aims to validate the functionality of various bird classes and related attributes in the codebase. It includes tests for creating different types of birds with specific characteristics, modifying their attributes, and ensuring that the input values match the expected output after modification. Each test is named according to the class and purpose it serves, with concise descriptions of input and expected outcomes.

Conservatory and Aviary:

Rescue Bird Test (testRescueBird_CreateGenericAviary):

I used a loop to simulate adding 20 different birds to the Conservatory to simulate a full conservatory scenario.

I created a new bird named "Songbird" and attempted to add it to the already full Conservatory to test whether a generic aviary would be created.

Finally, I verified if the "Songbird" was successfully added to the generic aviary.

Add Bird To Aviary Test (testAddBirdToAviary):

I created an Aviary object and added a bird (e.g., "Sparrow") to it.

Then, I verified whether the bird was successfully added to the aviary.

Aviary Is Full Test (testAviaryIsFull):

I created an Aviary object and attempted to add multiple birds to reach the maximum capacity of the aviary (assuming a maximum bird count of 5).

In the test, I verified whether the aviary was correctly identified as full and no longer accepting more birds.

Calculate Total Food Needs For Aviary Test (testCalculateTotalFoodNeedsForAviary):

I created an Aviary object and added two birds to it ("Songbird" and "Parrot").

By calling the calculateTotalFoodNeeds method, I calculated the total food needs of these two birds.

Finally, I verified whether the calculated total food needs matched the expected value.

Find Suitable Aviary Test (testFindSuitableAviary):

I created a new Conservatory object and added a "Sparrow" bird to it using the rescueBird method.

Then, I used the findAviaryByBirdType method to look for an aviary that contains "Sparrow" and verified whether it was successfully found.

Testing Plan for Bird Class

Test 1: Bird Creation
Input: "Sparrow", "Small and fast", false, 2, ["seeds", "insects"]
Expected Output: Match Input

Test 2: Modify Bird Attributes
Input: "Sparrow", New Characteristic: "Tiny and agile", Extinction Status: true, Wings: 1, Preferred Food: ["worms"]
Expected Output: Match Input
BirdOfPrey Class

Test 3: BirdOfPrey Creation
Input: "Eagle", "Large and powerful", false, 2, ["small mammals", "fish"], "Sharp", true
Expected Output: Match Input

Test 4: Modify BirdOfPrey Attributes
Input: "Eagle", Beak Type: "Hooked", Nostrils Visible: false
Expected Output: Match Input

Test 5: FlightlessBird Creation
Input: "Ostrich", "Tall and fast runner", false, 2, ["seeds", "plants"], true
Expected Output: Match Input

Test 6: Modify FlightlessBird Attributes
Input: "Ostrich", Flightless Status: false
Expected Output: Match Input

Test 7: Owl Creation
Input: "Snowy Owl", "White and nocturnal", false, 2, ["small mammals"], true
Expected Output: Match Input

Test 8: Modify Owl Attributes
Input: "Snowy Owl", Facial Disks: false
Expected Output: Match Input

Test 9: Parrot Creation
Input: "Macaw", "Colorful and loud", false, 2, ["fruits", "nuts"], 50, "Hello!"
Expected Output: Match Input

Test 10: Modify Parrot Attributes
Input: "Macaw", Vocabulary Size: 100, Favorite Saying: "Hi!"
Expected Output: Match Input

Test 11: Pigeon Creation
Input: "Rock Pigeon", "Urban dweller", false, 2, ["seeds"], true
Expected Output: Match Input

Test 12: Modify Pigeon Attributes
Input: "Rock Pigeon", Bird Milk: false
Expected Output: Match Input

Test 13: Shorebird Creation
Input: "Sandpiper", "Coastal bird", false, 2, ["insects"], "Beach"
Expected Output: Match Input

Test 14: Modify Shorebird Attributes
Input: "Sandpiper", Water Source Name: "Lake"
Expected Output: Match Input

Test 15: Waterfowl Creation
Input: "Mallard", "Common duck", false, 2, ["aquatic plants"], "Pond"
Expected Output: Match Input

Test 16: Modify Waterfowl Attributes
Input: "Mallard", Water Source Name: "River"
Expected Output: Match Input