CT\_2021\_001 Nirmal B.A.C.C

package Q\_01;  
  
  
public class Cat extends Pet {  
 private String coatColor;  
  
 public void setCoatColor(String color) {  
 coatColor = color;  
 }  
  
 public String getCoatColor() {  
 return coatColor;  
 }  
  
  
 public String speak() {  
 return "Meow!";  
 }  
}

package Q\_01;  
  
  
public class Dog extends Pet {  
 private double weight;  
  
 public void setWeight(double w) {  
 weight = w;  
 }  
  
 public double getWeight() {  
 return weight;  
 }  
  
 public String speak() {  
 return "Woof!";  
 }  
}

package Q\_01;  
  
public class Pet {  
 private String name;  
  
 public String getName() {  
 return name;  
 }  
  
 public void setName(String petName) {  
 name = petName;  
 }  
  
 public String speak() {  
 return "I'm your cuddly little pet.";  
 }  
}

package Q\_01;  
  
  
  
import java.util.\*;  
  
public class PetProgram {  
 public static void main(String[] args) {  
 Scanner input = new Scanner(System.*in*);  
 ArrayList<Pet> pets = new ArrayList<>();  
 int choice;  
  
 do {  
 System.*out*.println("\nPet Menu:");  
 System.*out*.println("1. Add Cat");  
 System.*out*.println("2. Add Dog");  
 System.*out*.println("3. Remove Cat");  
 System.*out*.println("4. Remove Dog");  
 System.*out*.println("5. Show All Pets");  
 System.*out*.println("6. Show Cats Then Dogs");  
 System.*out*.println("7. Show Dog Weight Stats");  
 System.*out*.println("8. Quit");  
 System.*out*.print("Enter your choice: ");  
 choice = Integer.*parseInt*(input.nextLine());  
  
 switch (choice) {  
 case 1:  
 System.*out*.print("Enter cat name: ");  
 String catName = input.nextLine();  
 System.*out*.print("Enter coat color: ");  
 String coatColor = input.nextLine();  
 Cat cat = new Cat();  
 cat.setName(catName);  
 cat.setCoatColor(coatColor);  
 pets.add(cat);  
 System.*out*.println("Cat added.");  
 break;  
  
 case 2:  
 System.*out*.print("Enter dog name: ");  
 String dogName = input.nextLine();  
 System.*out*.print("Enter weight: ");  
 double weight = Double.*parseDouble*(input.nextLine());  
 Dog dog = new Dog();  
 dog.setName(dogName);  
 dog.setWeight(weight);  
 pets.add(dog);  
 System.*out*.println("Dog added.");  
 break;  
  
 case 3:  
 System.*out*.print("Enter name of cat to remove: ");  
 String removeCatName = input.nextLine();  
 pets.removeIf(p -> p instanceof Cat && p.getName().equalsIgnoreCase(removeCatName));  
 System.*out*.println("Cat removed if found.");  
 break;  
  
 case 4:  
 System.*out*.print("Enter name of dog to remove: ");  
 String removeDogName = input.nextLine();  
 pets.removeIf(p -> p instanceof Dog && p.getName().equalsIgnoreCase(removeDogName));  
 System.*out*.println("Dog removed if found.");  
 break;  
  
 case 5:  
 System.*out*.println("\nAll Pets:");  
 for (Pet p : pets) {  
 System.*out*.print(p.getName() + " is a ");  
 if (p instanceof Cat) {  
 System.*out*.println("Cat, Coat Color: " + ((Cat) p).getCoatColor());  
 } else if (p instanceof Dog) {  
 System.*out*.println("Dog, Weight: " + ((Dog) p).getWeight());  
 }  
 System.*out*.println("Says: " + p.speak());  
 }  
 break;  
  
 case 6:  
 System.*out*.println("\nCats:");  
 for (Pet p : pets) {  
 if (p instanceof Cat) {  
 System.*out*.println(p.getName() + " - Coat Color: " + ((Cat) p).getCoatColor());  
 }  
 }  
 System.*out*.println("\nDogs:");  
 for (Pet p : pets) {  
 if (p instanceof Dog) {  
 System.*out*.println(p.getName() + " - Weight: " + ((Dog) p).getWeight());  
 }  
 }  
 break;  
  
 case 7:  
 double total = 0;  
 double min = Double.*MAX\_VALUE*;  
 double max = Double.*MIN\_VALUE*;  
 int count = 0;  
  
 for (Pet p : pets) {  
 if (p instanceof Dog) {  
 double w = ((Dog) p).getWeight();  
 total += w;  
 if (w < min) min = w;  
 if (w > max) max = w;  
 count++;  
 }  
 }  
  
 if (count > 0) {  
 System.*out*.println("\nDog Weight Statistics:");  
 System.*out*.println("Average: " + (total / count));  
 System.*out*.println("Minimum: " + min);  
 System.*out*.println("Maximum: " + max);  
 } else {  
 System.*out*.println("No dogs found.");  
 }  
 break;  
  
 case 8:  
 System.*out*.println("Exiting...");  
 break;  
  
 default:  
 System.*out*.println("Invalid choice.");  
 }  
  
 } while (choice != 8);  
 }  
}

A screenshot of a computer

AI-generated content may be incorrect.