Test

Unit Testing

In the logic of my code, adding and removing are encapsulated in `ArrayList`'s `add` and `remove`, where `add` has no return value and `remove` returns a boolean indicating whether the removal was successful or not. So after adding the pet according to the logic, **calling the remove method can determine if the add function works**. **When you call the remove method again, you can determine if the remove function works**. Here, adding and deleting functions of the cat class and adding and deleting functions of the dog class are carried out using unit tests.

The code in the test class is as follows:

```java
import org.junit.jupiter.api.Test;

import static org.junit.jupiter.api.Assertions.*;

class ClinicTest {

    @Test
    public void testInputDogInformation() {
        Clinic myclinic = new Clinic();
        // Max | 4 years | Brown | 50 | Labrador Retriever
        Pet dog = new Dog("Max", 4,"Brown", 50, "Labrador Retriever");
        myclinic.addPet(dog);

        // The delete function returns true if the deletion is successful,
otherwise it returns false.
        // Since the dog is inserted, it is possible to delete it for the first
time, i.e., it returns true
        assertEquals(true,myclinic.removePet(dog), "The Test didn't Pass." );

        // After deleting, deleting again will report an error
        assertEquals(false,myclinic.removePet(dog), "The Test didn't Pass." );

    }

    @Test
    public void testInputCatInformation() {
        Clinic myclinic = new Clinic();
        // Whiskers | 3 years | Gray | 8B | ritish Shorthair
        Pet cat = new Cat("Whiskers", 3, "Gray", 88, "ritish Shorthair");
        myclinic.addPet(cat);

        // The delete function returns true if the deletion is successful,
otherwise it returns false.
            // Since the dog is inserted, it is possible to delete it for the
first time, i.e., it returns true
        assertEquals(true, myclinic.removePet(cat), "The Test didn't Pass.");

        // After deleting, deleting again will report an error
        assertEquals(false, myclinic.removePet(cat), "The Test didn't Pass.");
```
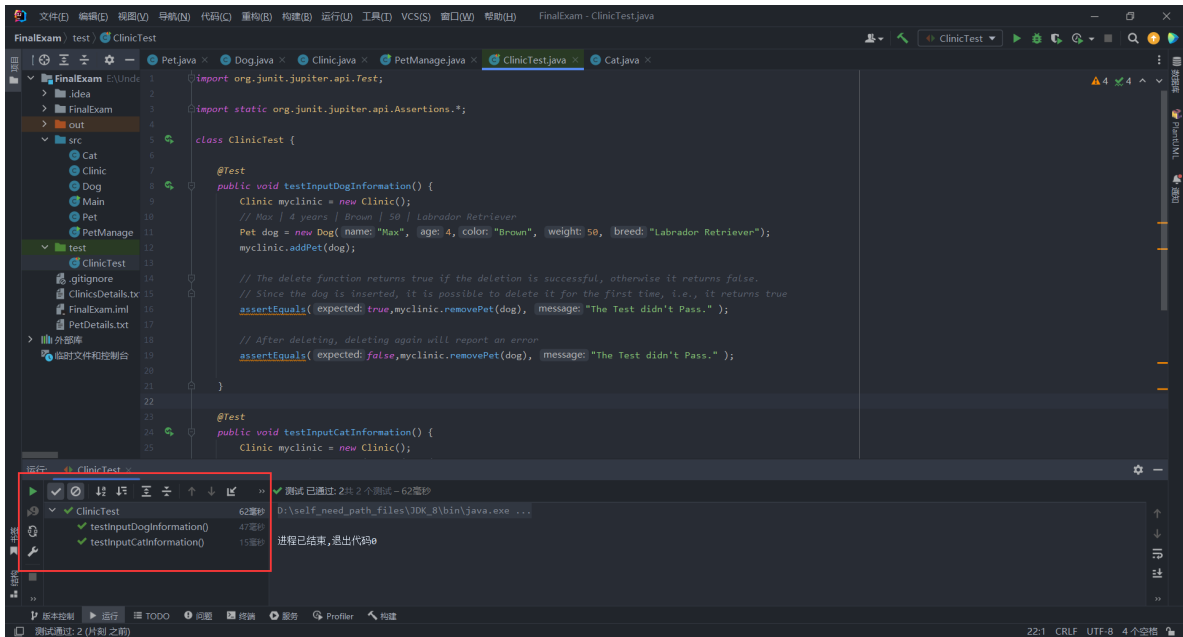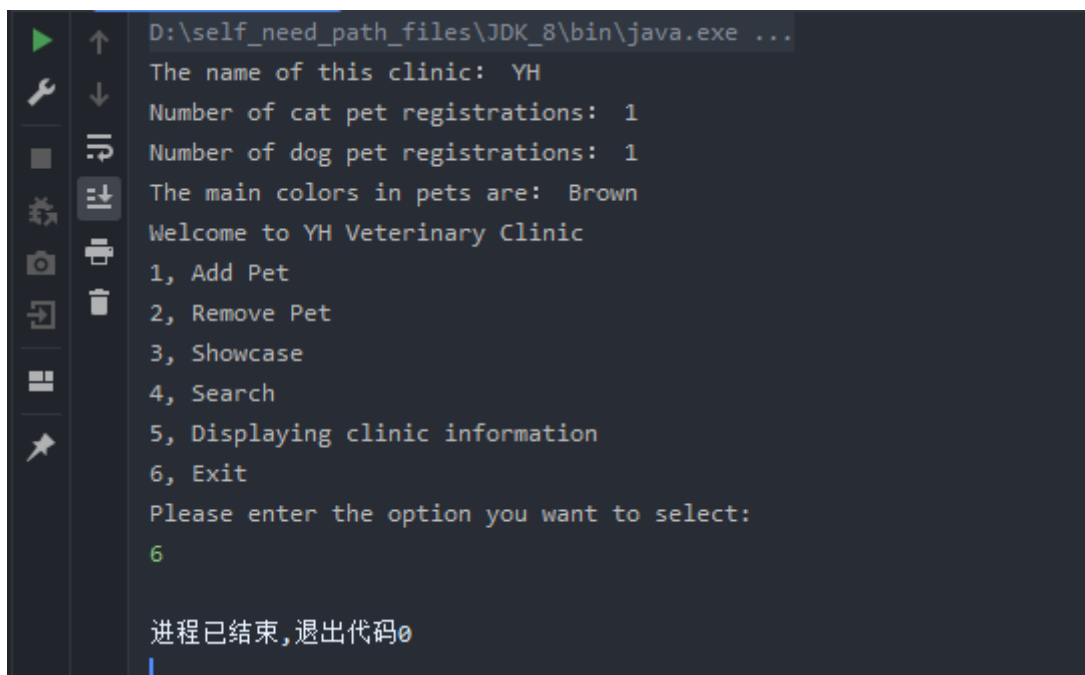
```
        }
    }
}
```


System testing

Command line interface logic testing

Main Interface Test

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T0001	Testing the main interface logic Function 1: Exit the program	Enter "6."	program exit	program exit	Pass

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T0002	Test the main interface logic function 2: enter the display page, and then exit sequentially afterward	Enter "3", "4", "6".	program exit	program exit	Pass

```
D:\self_need_path_files\JDK_8\bin\java.exe ...
The name of this clinic:  YH
Number of cat pet registrations:  1
Number of dog pet registrations:  1
The main colors in pets are:  Brown
Welcome to YH Veterinary Clinic
1, Add Pet
2, Remove Pet
3, Showcase
4, Search
5, Displaying clinic information
6, Exit
Please enter the option you want to select:
3
Make a selection to display by that type
1, Show by color
2, Show by type
3, Default Display
4, Exit
Please export the option you want to select:
4
Welcome to YH Veterinary Clinic
1, Add Pet
2, Remove Pet
3, Showcase
4, Search
5, Displaying clinic information
6, Exit
Please enter the option you want to select:
6

进程已结束,退出代码0
```

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T0003	Testing the main interface logic function 3: Entering illegitimate options	Enter "7."	Prompts an error message and returns to the main screen	Prompts an error message and returns to the main screen	Pass

```
Number of dog pet registrations:  1
The main colors in pets are:  Brown
Welcome to YH Veterinary Clinic
1, Add Pet
2, Remove Pet
3, Showcase
4, Search
5, Displaying clinic information
6, Exit
Please output the option you want to select:
7
Illegal option, please re-enter
Welcome to YH Veterinary Clinic
1, Add Pet
2, Remove Pet
3, Showcase
4, Search
5, Displaying clinic information
6, Exit
Please output the option you want to select:
```

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T0004	Multiple access to other screens	Enter in order: "3", "2", "4", "4", "5", "6"	Exit after the program runs normally	Exit after the program runs normally	Pass

Demonstrate Interface Testing

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T1001	Test Demonstration Screen 1: Loop Logic	Output 1, 2, 3 in sequence	Displayed by color, type, and default in that order	Displayed by color, type, and default in that order	Pass

```
Make a selection to display by that type
1, Show by color
2, Show by type
3, Default Display
4, Exit
Please export the option you want to select:
1
Color: Brown
Type: dog  Name: Max  Age: 4  Color: Brown  Weight: 50.0  Breed: Labrador Retriever
Color: Gray
Type: Cat  Name: Whiskers  Age: 3  Color: Gray  Weight: 88.0  Breed: ritish Shorthair
Make a selection to display by that type
1, Show by color
2, Show by type
3, Default Display
4, Exit
Please export the option you want to select:
2
Pet Category: Dog
Type: dog  Name: Max  Age: 4  Color: Brown  Weight: 50.0  Breed: Labrador Retriever
Pet Category: Cat
Type: Cat  Name: Whiskers  Age: 3  Color: Gray  Weight: 88.0  Breed: ritish Shorthair
Make a selection to display by that type
1, Show by color
2, Show by type
3, Default Display
4, Exit
Please export the option you want to select:
3
Type: Cat  Name: Whiskers  Age: 3  Color: Gray  Weight: 88.0  Breed: ritish Shorthair
Type: dog  Name: Max  Age: 4  Color: Brown  Weight: 50.0  Breed: Labrador Retriever
Make a selection to display by that type
1, Show by color
2, Show by type
3, Default Display
4, Exit
Please export the option you want to select:
```

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T1002	Test Display Screen 2: Exit to Main Screen	Input 4	Back to the main screen	Back to the main screen	Pass

```
Please export the option you want to select:

4
Welcome to YH Veterinary Clinic
1, Add Pet
2, Remove Pet
3, Showcase
4, Search
5, Displaying clinic information
6, Exit
Please enter the option you want to select:
```

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T1003	Test Demonstration Screen 3: Input Invalid Options	Input 34	Prompts an error message and returns to the main screen	Prompts an error message and returns to the main screen	Pass

```
4, Exit
Please export the option you want to select:
34
Please enter a valid option number
Make a selection to display by that type
1, Show by color
2, Show by type
3, Default Display
4, Exit
Please export the option you want to select:
```

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T1004	Test Display Screen 4: Multiple Processing Display	Enter 1 through 3 several times, after which you exit the display screen	Exit the main screen after multiple displays	Exit the main screen after multiple displays	Pass

Add pet function test

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T2001	Add Test 1: Adding a Legal Pet Cat	type:cat; name: Luna; age: 2; color: Black; weight: 7.5; breed: Persian	Successfully added the pet cat shown in the test data	Successfully added the pet cat shown in the test data	Pass

```
        Please enter the option you want to select:
        1
        We're going to add pet now.
        Please enter its name:
        Luna
        Please enter its age:
        2
        Please enter its color
        Black
        Please enter its weight:
        7.5
        There are several types of pets:
        1, Dog
        2, Cat
        Please enter its type
        2
        Please enter a species:
        Persian
```

```
    3
    Make a selection to display by that type
    1, Show by color
    2, Show by type
    3, Default Display
    4, Exit
    Please export the option you want to select:
    3
    Type: Cat  Name: Whiskers  Age: 3  Color: Gray  Weight: 88.0  Breed: ritish Shorthair
    Type: dog  Name: Max  Age: 4  Color: Brown  Weight: 50.0  Breed: Labrador Retriever
    Type: Cat  Name: Luna  Age: 2  Color: Black  Weight: 7.5  Breed: Persian
    Make a selection to display by that type
```

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T2002	Add Test 2: Adding a Legitimate Pet Dog	type:dog; name: Charlie; age: 5; color: Tan; weight: 55; breed: Rottweiler	Successfully added the pet dog shown in the test data	Successfully added the pet dog shown in the test data	Pass

```
    Please enter the option you want to select:
    1
    We're going to add pet now.
    Please enter its name:
    Charlie
    Please enter its age:
    5
    Please enter its color
    Tan
    Please enter its weight:
    55
    There are several types of pets:
    1, Dog
    2, Cat
    Please enter its type
    1
    Please enter a species:
    Rottweiler
```

```
Please export the option you want to select:
3
Type: Cat   Name: Whiskers   Age: 3   Color: Gray    Weight: 88.0   Breed: ritish Shorthair
Type: dog   Name: Max        Age: 4   Color: Brown   Weight: 50.0   Breed: Labrador Retriever
Type: Cat   Name: Luna       Age: 2   Color: Black   Weight: 7.5    Breed: Persian
Type: dog   Name: Charlie    Age: 5   Color: Tan     Weight: 55.0   Breed: Rottweiler
```

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T2003	Adding Test 2: Adding a legal dog with a space	type:dog; name: Daisy; age: 1; color: Black and White; weight: 25; breed: Golden Retriever	Successfully added the pet dog shown in the test data	Successfully added the pet dog shown in the test data	Pass

```
We're going to add pet now.
Please enter its name:
Daisy
Please enter its age:
1
Please enter its color
Black and White
Please enter its weight:
25
There are several types of pets:
1, Dog
2, Cat
Please enter its type
1
Please enter a species:
Golden Retriever
Pet added successfully
```

```
3
Type: Cat   Name: Whiskers   Age: 3   Color: Gray          Weight: 88.0   Breed: ritish Shorthair
Type: dog   Name: Max        Age: 4   Color: Brown         Weight: 50.0   Breed: Labrador Retriever
Type: dog   Name: Charlie    Age: 5   Color: Tan           Weight: 55.0   Breed: Rottweiler
Type: dog   Name: Daisy      Age: 1   Color: Black and White   Weight: 25.0   Breed: Golden Retriever
```

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T2004	Add Test 3 - Illegal Test 1: Null Name	type:dog; name: ; age: 5; color: Tan; weight: 55; breed: Rottweiler	No additions are made and the information is printed to the screen	No additions are made and the information is printed to the screen	Pass

```
We're going to add pet now.
Please enter its name:

Please enter its age:
5
Please enter its color
Tan
Please enter its weight:
55
There are several types of pets:
1, Dog
2, Cat
Please enter its type
1
Please enter a species:
Rottweiler
Null value, end!
Please enter valid pet information
```

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T2005	Add Test 3 - Illegal Test 2: Color Null	type:dog; name: Charlie ; age: 5; color: ; weight: 55; breed: Rottweiler	No additions are made and the information is printed to the screen	No additions are made and the information is printed to the screen	Pass

```
We're going to add pet now.
Please enter its name:
Charlie
Please enter its age:
5
Please enter its color

Please enter its weight:
55
There are several types of pets:
1, Dog
2, Cat
Please enter its type
1
Please enter a species:
Rottweiler
Null value, end!
Please enter valid pet information
```

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T2006	Add Test 3 - Illegal Test 3: Kind is Empty	type:dog; name: Charlie ; age: 5; color: Tan ; weight: 55; breed:	No additions are made and the information is printed to the screen	No additions are made and the information is printed to the screen	Pass

```
We're going to add pet now.
Please enter its name:
Charile
Please enter its age:
5
Please enter its color
Tan
Please enter its weight:
55
There are several types of pets:
1, Dog
2, Cat
Please enter its type
1
Please enter a species:

Null value, end!
Please enter valid pet information
```

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T2007	Add Test 3 - Illegal Test 4: Negative Age	type:dog; name: Charlie ; age: -5; color: Tan ; weight: 55; breed: Rottweiler	Remind the invalid value and read it again until it is correct	Remind the invalid value and read it again until it is correct	Pass

```
We're going to add pet now.
Please enter its name:
Charlie
Please enter its age:
-5
Please enter a valid age value:
-3
Please enter a valid age value:
5
Please enter its color
Tan
Please enter its weight:
55
There are several types of pets:
1, Dog
2, Cat
Please enter its type
1
Please enter a species:
Rottweiler
```

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T2008	Add Test 3 - Illegal Test 5: Negative Body Weight	type:dog; name: Charlie ; age: 5; color: Tan ; weight: -55; breed: Rottweiler	Remind the invalid value and read it again until it is correct	Remind the invalid value and read it again until it is correct	Pass

```
We're going to add pet now.
Please enter its name:
Charlie
Please enter its age:
5
Please enter its color
Tan
Please enter its weight:
-55
Please enter a valid weight value:
-3
Please enter a valid weight value:
55
There are several types of pets:
1, Dog
2, Cat
Please enter its type
1
Please enter a species:
Rottweiler
Pet added successfully
```

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T2009	Add Test 3 - Illegal Test 5: Null name, color, type, negative age, weight	type:dog; name: ; age: -5; color: ; weight: -55; breed:	Reminder of invalid value and read again until correct, no deposit is made	Reminder of invalid value and read again until correct, no deposit is made	Pass

```
We're going to add pet now.
Please enter its name:

Please enter its age:
-3
Please enter a valid age value:
3
Please enter its color

Please enter its weight:
-55
Please enter a valid weight value:
45
There are several types of pets:
1, Dog
2, Cat
Please enter its type
1
Please enter a species:

Null value, end!
Please enter valid pet information
```

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T2010	Add Test 4: Adding Duplicate Pets	type:dog; name: 1 ; age: 1; color: 1 ; weight: 1; breed:1	Tips to be present in the clinic with	Tips to be present in the clinic with	Pass

```
Please enter the option you want to select:
1
We're going to add pet now.
Please enter its name:
1
Please enter its age:
1
Please enter its color
1
Please enter its weight:
1
There are several types of pets:
1, Dog
2, Cat
Please enter its type
1
Please enter a species:
1
It's been there before.
```

Delete pet function test

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T3001	Deletion Test 1: Deletion of Pet Cats	type:cat; name: Luna; age: 2; color: Black; weight: 7.5; breed: Persian	Successful deletion of the pet cat shown in the test data	Successful deletion of the pet cat shown in the test data	Pass

```
We're going to remove pet now.
Please enter its name:
Luna
Please enter its age:
2
Please enter its color
Black
Please enter its weight:
7.5
There are several types of pets:
1, Dog
2, Cat
Please enter its type
2
Please enter a species:
Persian
Deleted successfully
```

```
3
Type:  Cat  Name: Whiskers  Age: 3  Color: Gray  Weight: 88.0  Breed: ritish Shorthair
Type:  dog  Name: Max  Age: 4  Color: Brown  Weight: 50.0  Breed: Labrador Retriever
Type:  dog  Name: Charlie  Age: 5  Color: Tan  Weight: 55.0  Breed: Rottweiler
Type:  dog  Name: Charlie  Age: 5  Color: Tan  Weight: 55.0  Breed: Rottweiler
```

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T3002	Delete Test 2: Delete Pet Dog	type:dog; name: Charlie; age: 5; color: Tan; weight: 55; breed: Rottweiler	Successful deletion of the pet dog shown in the test data	Successful deletion of the pet dog shown in the test data	Pass

```
We're going to remove pet now.
Please enter its name:
Charlie
Please enter its age:
5
Please enter its color
Tan
Please enter its weight:
55
There are several types of pets:
1, Dog
2, Cat
Please enter its type
1
Please enter a species:
Rottweiler
Type Error
Deleted successfully
```

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T3003	Deletion Test 3: Deleting Invalid Pets	type:dog; name: ; age: 5; color: Tan; weight: 55; breed: Rottweiler	Cannot be deleted, displaying information	Cannot be deleted, displaying information	Pass

```
We're going to remove pet now.
Please enter its name:

Please enter its age:
5
Please enter its color
Tan
Please enter its weight:
55
There are several types of pets:
1, Dog
2, Cat
Please enter its type
1
Please enter a species:
Rottweiler
Null value, end!
Deletion failed, please check input of pet information, etc.
```

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T3004	Deletion Test 4: Deletion of pets not present in the clinic	type:dog; name: null ; age: 5; color: null; weight: 55; breed: null	Cannot be deleted, displaying information	Cannot be deleted, displaying information	Pass

```
Please enter its name:
null
Please enter its age:
5
Please enter its color
null
Please enter its weight:
55
There are several types of pets:
1, Dog
2, Cat
Please enter its type
1
Please enter a species:
null
Type Error
Type Error
The pet was not found in the in-clinic pets
```

Demonstrate functional testing

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T4001	Display Test 1: Display by Color		Display to screen by color	Display to screen by color	Pass

```
Color: Black
Type: Cat  Name: Luna  Age: 2  Color: Black  Weight: 7.5  Breed: Persian
Color: Brown
Type: dog  Name: Max  Age: 4  Color: Brown  Weight: 50.0  Breed: Labrador Retriever
Color: Gray
Type: Cat  Name: Whiskers  Age: 3  Color: Gray  Weight: 88.0  Breed: ritish Shorthair
Color: Tan
Type: dog  Name: Charlie  Age: 5  Color: Tan  Weight: 55.0  Breed: Rottweiler
```

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T4002	Presentation Test 2: Presentation by Category		Display to screen by category	Display to screen by category	Pass

```
Pet Category: Dog
Type: dog  Name: Max  Age: 4  Color: Brown  Weight: 50.0  Breed: Labrador Retriever
Type: dog  Name: Charlie  Age: 5  Color: Tan  Weight: 55.0  Breed: Rottweiler
Pet Category: Cat
Type: Cat  Name: Whiskers  Age: 3  Color: Gray  Weight: 88.0  Breed: ritish Shorthair
Type: Cat  Name: Luna  Age: 2  Color: Black  Weight: 7.5  Breed: Persian
```

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T4003	Display Test 3: Display by default		Show to screen by default	Show to screen by default	Pass

```
3
Type: Cat  Name: Whiskers  Age: 3  Color: Gray  Weight: 88.0  Breed: ritish Shorthair
Type: dog  Name: Max  Age: 4  Color: Brown  Weight: 50.0  Breed: Labrador Retriever
Type: Cat  Name: Luna  Age: 2  Color: Black  Weight: 7.5  Breed: Persian
Type: dog  Name: Charlie  Age: 5  Color: Tan  Weight: 55.0  Breed: Rottweiler
```

Search function test

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T5001	Search Test 1 - Search by Name 1: Query for non-repeating pet names		The queried pets are called	The queried pets are called	Pass

```
Options available:
1, Search by name
2, Search by color
3, Exit
Please enter the options to be selected:
1
Please output the name of the query:
Max
Woof~ I'm Max , a 4-year-old Labrador Retriever dog
```

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T5002	Search Test 1 - Search by Name 2: Lookup Duplicate Pet Names		The queried pets are called叫	The queried pets are called	Pass

```
Options available:
1, Search by name
2, Search by color
3, Exit
Please enter the options to be selected:
1
Please output the name of the query:
test
Woof~ I'm test , a 1-year-old akaktest dog
Woof~ I'm test , a 3-year-old akakt dog
```

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T5003	Search Test 1 - Search by Color		Show pets found	Show pets found	Pass

```
Options available:
1, Search by name
2, Search by color
3, Exit
Please enter the options to be selected:
2
Please output the color to be queried:
Black
Type:  Cat  Name: Luna  Age: 2  Color: Black  Weight: 7.5  Breed: Persian
Type:  dog  Name: A  Age: 3  Color: Black  Weight: 3.0  Breed: akak
Type:  Cat  Name: B  Age: 4  Color: Black  Weight: 34.0  Breed: cf
```

Functionality test for displaying clinic information

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T6001	Display of clinic information		Displaying clinic information	Displaying clinic information	Pass

```
Please enter the option you want to select:
5
The name of this clinic:  YH
Number of cat pet registrations:  3
Number of dog pet registrations:  3
The main colors in pets are:  Black
```

Test case #	Test Description	Test Data	Expected result	Actual result	Pass/Fail
T6002	Maximum color duplication		Print out the maximum number of colors.	Print out the maximum number of colors.	Pass

```
5
The name of this clinic:  YH
Number of cat pet registrations:  1
Number of dog pet registrations:  1
The main colors in pets are:   [ Black , Gray ]
```

File Input/Output Functionality Tests

Before the program exits, the pet information in the clinic is:

```
Type:  Cat  Name: Whiskers  Age: 3  Color: Gray  Weight: 88.0  Breed: ritish Shorthair
Type:  dog  Name: Max  Age: 4  Color: Brown  Weight: 50.0  Breed: Labrador Retriever
Type:  Cat  Name: Luna  Age: 2  Color: Black  Weight: 7.5  Breed: Persian
Type:  dog  Name: Charlie  Age: 5  Color: Tan  Weight: 55.0  Breed: Rottweiler
Type:  dog  Name: A  Age: 3  Color: Black  Weight: 3.0  Breed: akak
Type:  Cat  Name: B  Age: 4  Color: Black  Weight: 34.0  Breed: cf
```

Clinic information for:

```
The name of this clinic:  YH
Number of cat pet registrations:  3
Number of dog pet registrations:  3
The main colors in pets are:  Black
```

After exiting, the contents of the `PetDetails.txt` file are:

```
Pet Information
Pet type (1 dog, 2 cats)     Name          Age        Color        Weight        Breed
2                          | Whiskers    | 3        | Gray       | 88.00      | ritish Shorthair
1                          | Max         | 4        | Brown      | 50.00      | Labrador Retriever
2                          | Luna        | 2        | Black      | 7.50       | Persian
1                          | Charlie     | 5        | Tan        | 55.00      | Rottweiler
1                          | A           | 3        | Black      | 3.00       | akak
2                          | B           | 4        | Black      | 34.00      | cf
```

The contents of the `ClinicsDetails.txt` file are:

```
1      Clinic Information:
2      Clinic Name: YH
3      Number of cats: 3
4      Number of dogs: 3
5      Colors that make up the largest percentage of pets: Black
6
```

In summary, **Posting in-clinic information to** `PetDetails.txt` **and** `ClinicsDetails.txt`
functions properly.

Open the program again and add a pet: `type: dog; name: Bella; age: 2; color: White;`
`weight: 35; breed: Siberian Husky`.

```
Please enter its name:
Bella
Please enter its age:
2
Please enter its color
White
Please enter its weight:
35
There are several types of pets:
1, Dog
2, Cat
Please enter its type
1
Please enter a species:
Siberian Husky
Pet added successfully
```

After adding a pet, the pet information within the program is:

```
Type:  Cat   Name: Whiskers   Age: 3   Color: Gray   Weight: 88.0   Breed: ritish Shorthair
Type:  dog   Name: Max   Age: 4   Color: Brown   Weight: 50.0   Breed: Labrador Retriever
Type:  Cat   Name: Luna   Age: 2   Color: Black   Weight: 7.5   Breed: Persian
Type:  dog   Name: Charlie   Age: 5   Color: Tan   Weight: 55.0   Breed: Rottweiler
Type:  dog   Name: A   Age: 3   Color: Black   Weight: 3.0   Breed: akak
Type:  Cat   Name: B   Age: 4   Color: Black   Weight: 34.0   Breed: cf
Type:  dog   Name: Bella   Age: 2   Color: White   Weight: 35.0   Breed: Siberian Husky
```

Clinic information for:

```
The name of this clinic:  YH
Number of cat pet registrations:  3
Number of dog pet registrations:  4
The main colors in pets are:  Black
```

After exiting the program, the contents of the `PetDetails.txt` file are:

```
1    Pet Information
2    Pet type (1 dog, 2 cats)      Name          Age        Color        Weight      Breed
3    2                           | Whiskers    | 3        | Gray       | 88.00     | ritish Shorthair
4    1                           | Max         | 4        | Brown      | 50.00     | Labrador Retriever
5    2                           | Luna        | 2        | Black      | 7.50      | Persian
6    1                           | Charlie     | 5        | Tan        | 55.00     | Rottweiler
7    1                           | A           | 3        | Black      | 3.00      | akak
8    2                           | B           | 4        | Black      | 34.00     | cf
9    1                           | Bella       | 2        | White      | 35.00     | Siberian Husky
10
```

The contents of the `ClinicsDetails.txt` file are:

```
1    Clinic Information:
2    Clinic Name: YH
3    Number of cats: 3
4    Number of dogs: 4
5    Colors that make up the largest percentage of pets: Black
6    |
```

In summary, **the program reads information from the file functioning properly**.

Therefore, the input/output function of the file is tested as normal.

Simulated Pet Warden Operational Testing

Enter the following pet content:

Type	Name	Age	Color	Weight	Breed
cat	Whiskers	3	Gray	8	British Shorthair
dog	Rocky	4	Black	45	German Shepherd
dog	Max	4	Brown	50	Labrador Retriever
cat	Oliver	5	Tabby	9	Siamese

Check that the following functions are as expected:

functionality	Pass/Fail
Press for color display	Pass
Search by name Max	Pass

```
Color: Black
Type: dog  Name: Rocky  Age: 4  Color: Black  Weight: 45.0  Breed: German Shepherd
Color: Brown
Type: dog  Name: Max  Age: 4  Color: Brown  Weight: 50.0  Breed: Labrador Retriever
Color: Gray
Type: Cat  Name: Whiskers  Age: 3  Color: Gray  Weight: 8.0  Breed: British Shorthair
Color: Tabby
Type: Cat  Name: Oliver  Age: 5  Color: Tabby  Weight: 9.0  Breed: Siamese
```

```
Options available:
1, Search by name
2, Search by color
3, Exit
Please enter the options to be selected:
1
Please output the name of the query:
Max
Woof~ I'm Max , a 4-year-old Labrador Retriever dog
```

Exit and then re-run the program.

Delete the following pet content:

Type	Name	Age	Color	Weight	Breed
dog	Max	4	Brown	50	Labrador Retriever
cat	Oliver	5	Tabby	9	Siamese

Check that the following functions are as expected:

functionality	Pass/Fail
Displaying clinic information	Pass
Display by default	Pass

```
5
The name of this clinic:  YH
Number of cat pet registrations:  1
Number of dog pet registrations:  1
The main colors in pets are:  Black
```

```
3
Type: Cat  Name: Whiskers  Age: 3  Color: Gray  Weight: 8.0  Breed: British Shorthair
Type: dog  Name: Rocky  Age: 4  Color: Black  Weight: 45.0  Breed: German Shepherd
```