Q1 Code: Pet.java

```
package Q1;

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.";
   }
}
```

Cat.java

```
package Q1;

public class Cat extends Pet {
   @Override
   public String speak() {
      return "";
   }
}
```

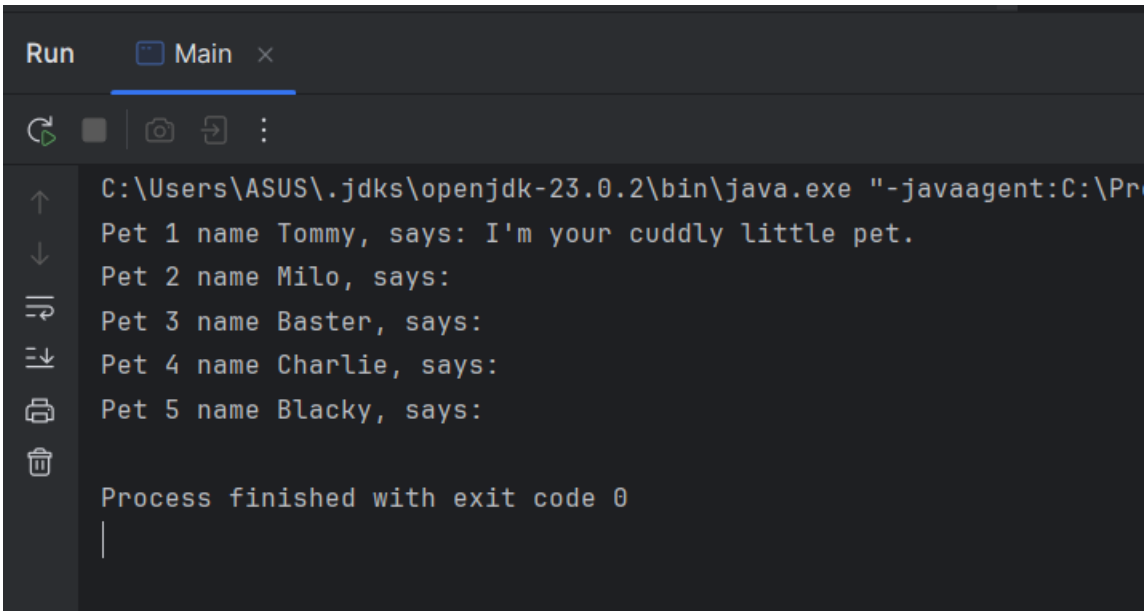
Dog.java

```
package Q1;

public class Dog extends Pet{
   @Override
   public String speak() {
      return "";
   }
}
```

Main.java

```
package Q1;

public class Main {
   public static void main(String[] args) {
      Pet p1=new Pet();
      p1.setName("Tommy");

      Pet p2=new Cat();
      p2.setName("Milo");

      Pet p3=new Dog();
      p3.setName("Baster");

      Cat p4=new Cat();
      p4.setName("Charlie");

      Dog p5=new Dog();
      p5.setName("Blacky");

      System.out.println("Pet 1 name "+p1.getName()+", says: "+p1.speak());
      System.out.println("Pet 2 name "+p2.getName()+", says: "+p2.speak());
      System.out.println("Pet 3 name "+p3.getName()+ ", says: "+p3.speak());
      System.out.println("Pet 4 name "+p4.getName()+ ", says: "+p4.speak());
      System.out.println("Pet 5 name "+p5.getName() +", says: "+p5.speak());
   }

}
```

Output of Q1:


Run
Main
C:\Users\ASUS\.jdks\openjdk-23.0.2\bin\java.exe "-javaagent:C:\Pr
Pet 1 name Tommy, says: I'm your cuddly little pet.
Pet 2 name Milo, says:
Pet 3 name Baster, says:
Pet 4 name Charlie, says:
Pet 5 name Blacky, says:
Process finished with exit code 0

Q1 Method 2 Returning String

Pet.java

```
package Q1_2;

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.";
   }
}
```

Cat.java

```
package Q1_2;

public class Cat extends Pet {
   @Override
   public String speak() {
      return "Meow!";
   }
}
```

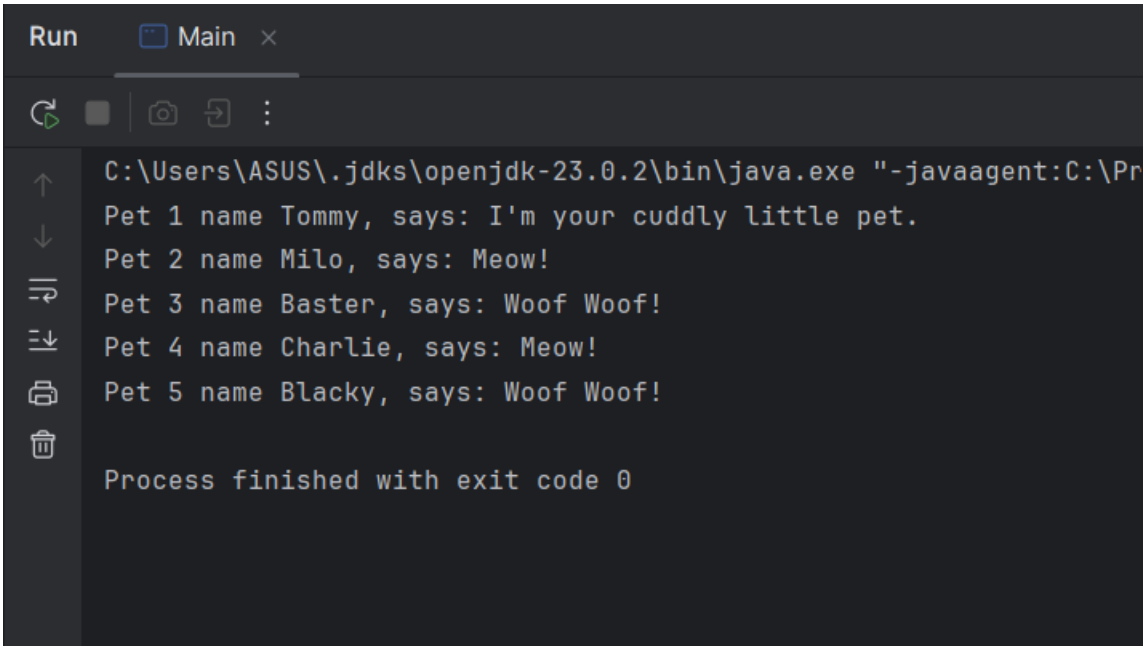
Dog.java

```
package Q1_2;

public class Dog extends Pet{
   @Override
   public String speak() {
      return "Woof Woof!";
   }
}
```

Main.java

```
package Q1_2;

public class Main {
   public static void main(String[] args) {
      Pet p1=new Pet();
      p1.setName("Tommy");

      Pet p2=new Cat();
      p2.setName("Milo");

      Pet p3=new Dog();
      p3.setName("Baster");

      Cat p4= new Cat();
      p4.setName("Charlie");

      Dog p5=new Dog();
      p5.setName("Blacky");

      System.out.println("Pet 1 name "+p1.getName()+", says: "+p1.speak());
      System.out.println("Pet 2 name "+p2.getName()+", says: "+p2.speak());
      System.out.println("Pet 3 name "+p3.getName()+ ", says: "+p3.speak());
      System.out.println("Pet 4 name "+p4.getName()+ ", says: "+p4.speak());
      System.out.println("Pet 5 name "+p5.getName() +", says: "+p5.speak());
   }
}
```

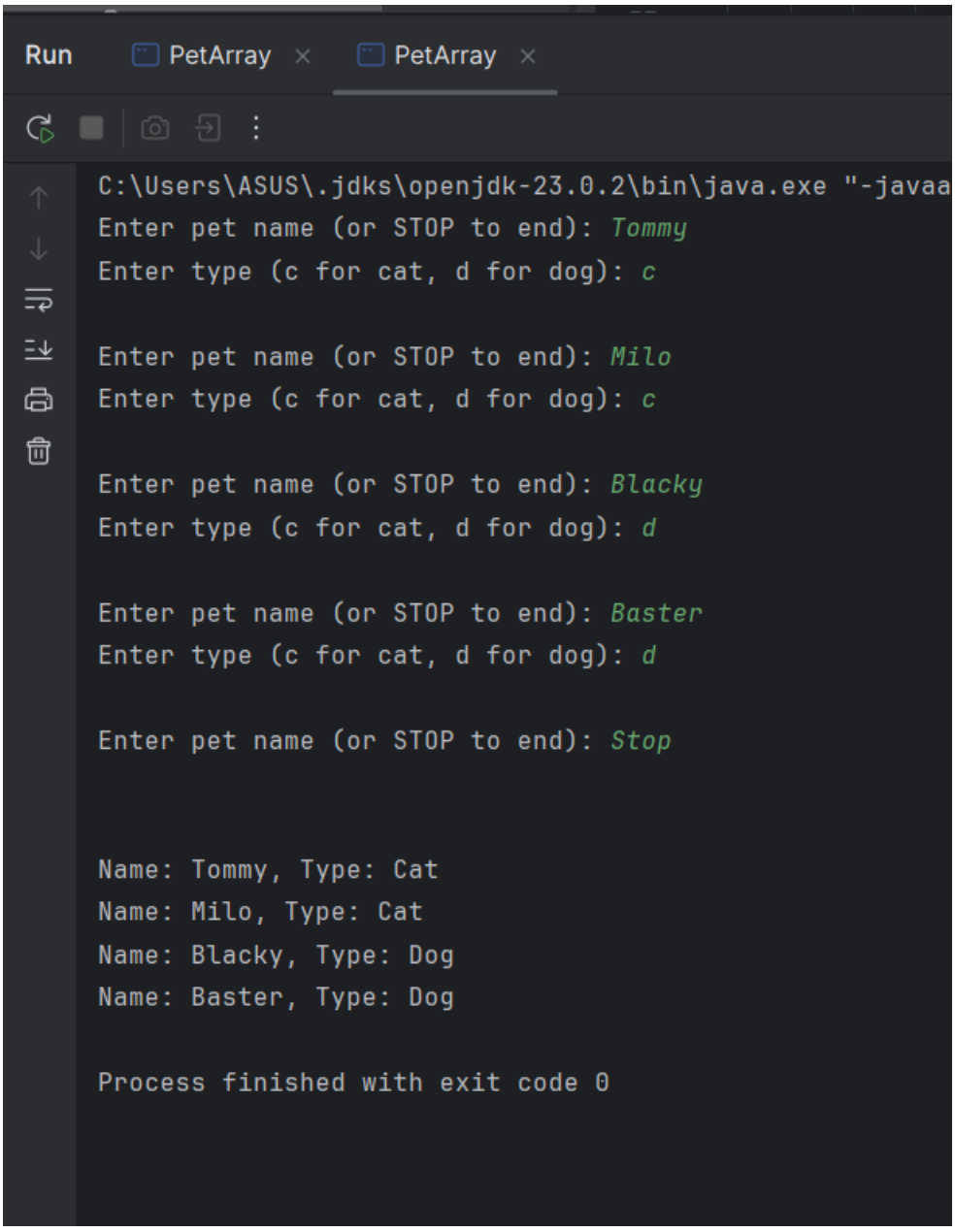
Q1 Method 2 Output



Q2 Code Method 1:

```
package Q2;
import Q1.Cat;
import Q1.Dog;
import Q1.Pet;
import java.util.ArrayList;
import java.util.Scanner;

public class PetArray {
  public static void main(String[] args) {
    ArrayList<Pet> pets = collectPets();
    displayPets(pets);

  }
     private static ArrayList<Pet> collectPets(){
       Scanner input = new Scanner(System.in);
       ArrayList<Pet> petList = new ArrayList<>();

       while (true) {
         System.out.print("Enter pet name (or STOP to end): ");
         String name = input.nextLine();
         if (name.equalsIgnoreCase("STOP")) break;

         System.out.print("Enter type (c for cat, d for dog): ");
         String type = input.nextLine();

         Pet pet = type.equalsIgnoreCase("c") ? new Cat() : new Dog();
         pet.setName(name);
         petList.add(pet);
         System.out.println();
       }
        System.out.println("\n");
        return petList;
    }
       public static void displayPets(ArrayList<Pet> pets) {
         for (Pet p : pets) {
           System.out.println("Name: " + p.getName() + ", Type: " +
p.getClass().getSimpleName());
         } }  }
```

Output:

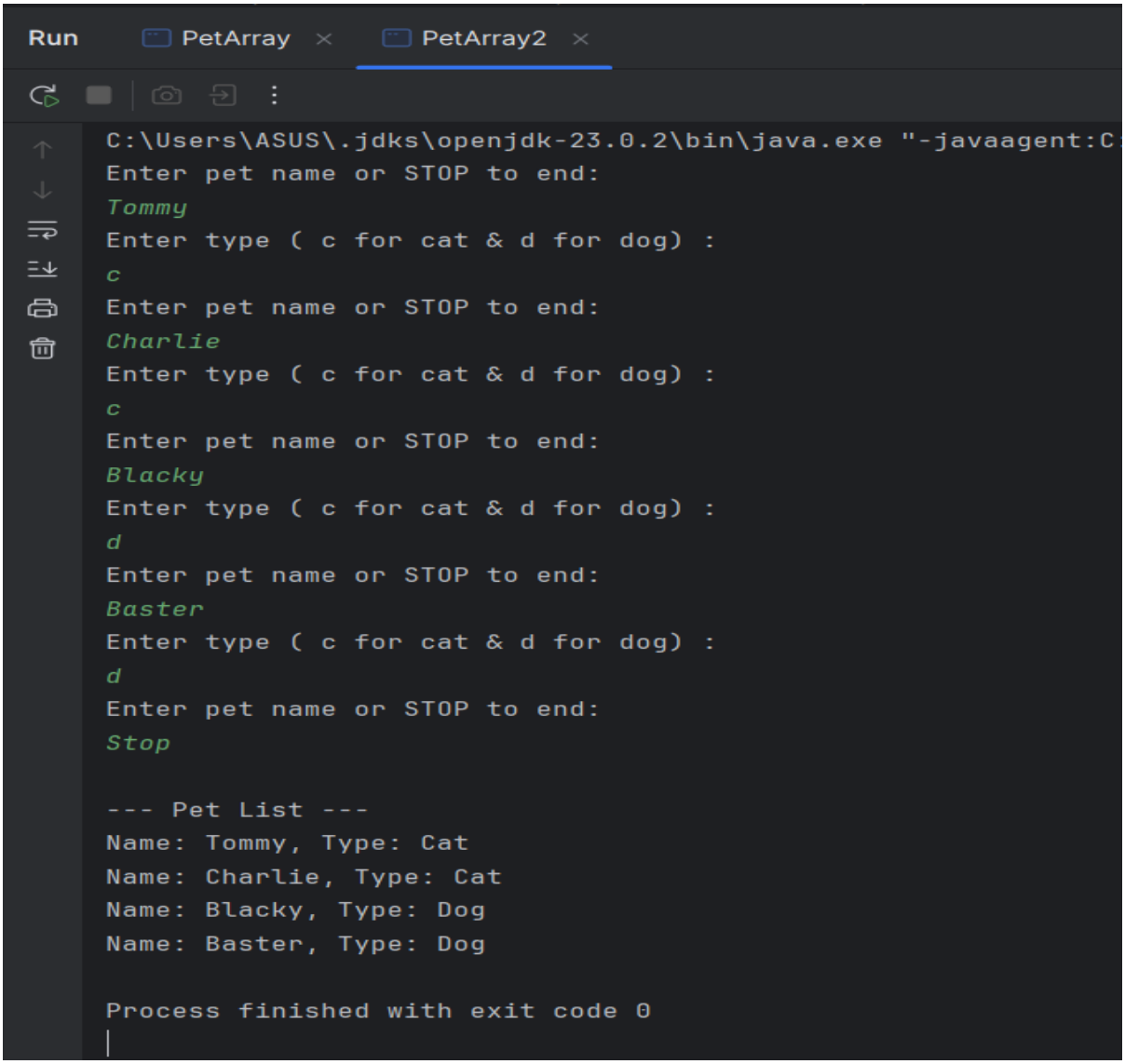

Run
PetArray
PetArray
C:\Users\ASUS\.jdks\openjdk-23.0.2\bin\java.exe "-javaa
Enter pet name (or STOP to end): Tommy
Enter type (c for cat, d for dog): c
Enter pet name (or STOP to end): Milo
Enter type (c for cat, d for dog): c
Enter pet name (or STOP to end): Blacky
Enter type (c for cat, d for dog): d
Enter pet name (or STOP to end): Baster
Enter type (c for cat, d for dog): d
Enter pet name (or STOP to end): Stop
Name: Tommy, Type: Cat
Name: Milo, Type: Cat
Name: Blacky, Type: Dog
Name: Baster, Type: Dog
Process finished with exit code 0

Q2 Method 2:

```
package Q2_2;

import Q1.Cat;
import Q1.Dog;
import Q1.Pet;

import java.util.ArrayList;
import java.util.Scanner;

public class PetArray2 {
   public static void main(String[] args) {
      Scanner input= new Scanner(System.in);
      ArrayList<Pet> pets= new ArrayList<>();

      //Input Loop
      while(true) {
         System.out.println("Enter pet name or STOP to end: ");
         String name = input.nextLine();
         if(name.equalsIgnoreCase("STOP")){
            break;
         }
         System.out.println("Enter type ( c for cat & d for dog) :");
         String type= input.nextLine();

         Pet pet;
         if(type.equalsIgnoreCase("c")){
            pet=new Cat();
         }else if(type.equalsIgnoreCase("d")){
            pet=new Dog();
         }else{
            System.out.println("Invalid Entry!");
            continue;
         }
         pet.setName(name);
         pets.add(pet);
      }
```

```
//Output loop
    System.out.println("\n--- Pet List ---");
    for (Pet p : pets) {
      String type = (p instanceof Cat) ? "Cat" : "Dog";
      System.out.println("Name: " + p.getName() + ", Type: " + type);
    }
  }
}
```

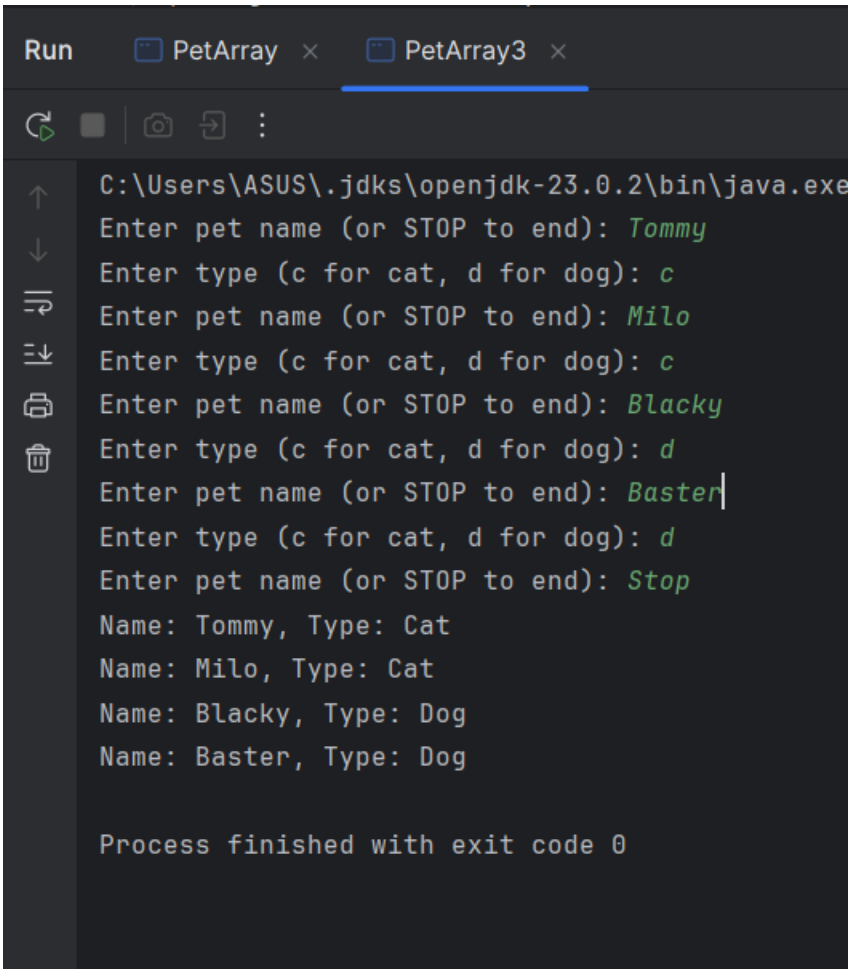
Output:



Q2 Code Method 3:

```
package Q2_3;
import Q1.Cat;
import Q1.Dog;
import Q1.Pet;
import java.util.Scanner;

public class PetArray3 {
  public static void main(String[] args) {
    Scanner input = new Scanner(System.in);
    Pet[] pets = new Pet[100]; // maximum 100 pets
    int count = 0;

    while (true) {
      System.out.print("Enter pet name (or STOP to end): ");
      String name = input.nextLine();
      if (name.equalsIgnoreCase("STOP")) break;

      System.out.print("Enter type (c for cat, d for dog): ");
      String type = input.nextLine();

      Pet pet;
      if (type.equalsIgnoreCase("c")) {
        pet = new Cat();
      } else {
        pet = new Dog();
      }

      pet.setName(name);
      pets[count++] = pet;
    }

    for (int i = 0; i < count; i++) {
      System.out.println("Name: " + pets[i].getName() + ", Type: " +
pets[i].getClass().getSimpleName());
    }
  }
}
```

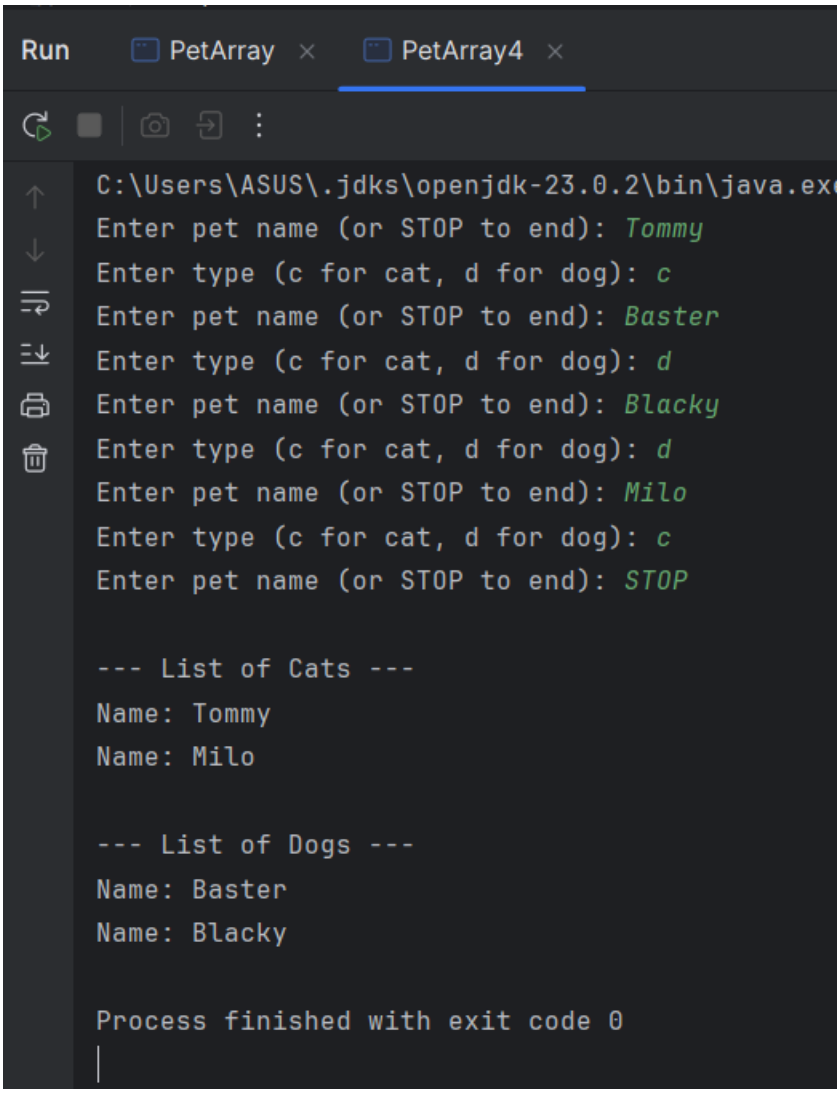
Output:


Run
PetArray
PetArray3
C:\Users\ASUS\.jdks\openjdk-23.0.2\bin\java.exe
Enter pet name (or STOP to end): Tommy
Enter type (c for cat, d for dog): c
Enter pet name (or STOP to end): Milo
Enter type (c for cat, d for dog): c
Enter pet name (or STOP to end): Blacky
Enter type (c for cat, d for dog): d
Enter pet name (or STOP to end): Baster
Enter type (c for cat, d for dog): d
Enter pet name (or STOP to end): Stop
Name: Tommy, Type: Cat
Name: Milo, Type: Cat
Name: Blacky, Type: Dog
Name: Baster, Type: Dog
Process finished with exit code 0

Q3

```
package Q3;
import Q1.Cat;
import Q1.Dog;
import Q1.Pet;
import java.util.ArrayList;
import java.util.Scanner;

public class PetArray4 {
   public static void main(String[] args) {
      Scanner input = new Scanner(System.in);
      ArrayList<Pet> pets = new ArrayList<>();

      while (true) {
         System.out.print("Enter pet name (or STOP to end): ");
         String name = input.nextLine();
         if (name.equalsIgnoreCase("STOP")) break;

         System.out.print("Enter type (c for cat, d for dog): ");
         String type = input.nextLine();

         Pet pet = type.equalsIgnoreCase("c") ? new Cat() : new Dog();
         pet.setName(name);
         pets.add(pet);
      }
System.out.println("\n--- List of Cats ---");
      for (Pet p : pets) {
         if (p instanceof Cat) {
            System.out.println("Name: " + p.getName());
         }
      }
      System.out.println("\n--- List of Dogs ---");
      for (Pet p : pets) {
         if (p instanceof Dog) {
            System.out.println("Name: " + p.getName());
         }
      }
   }}
```

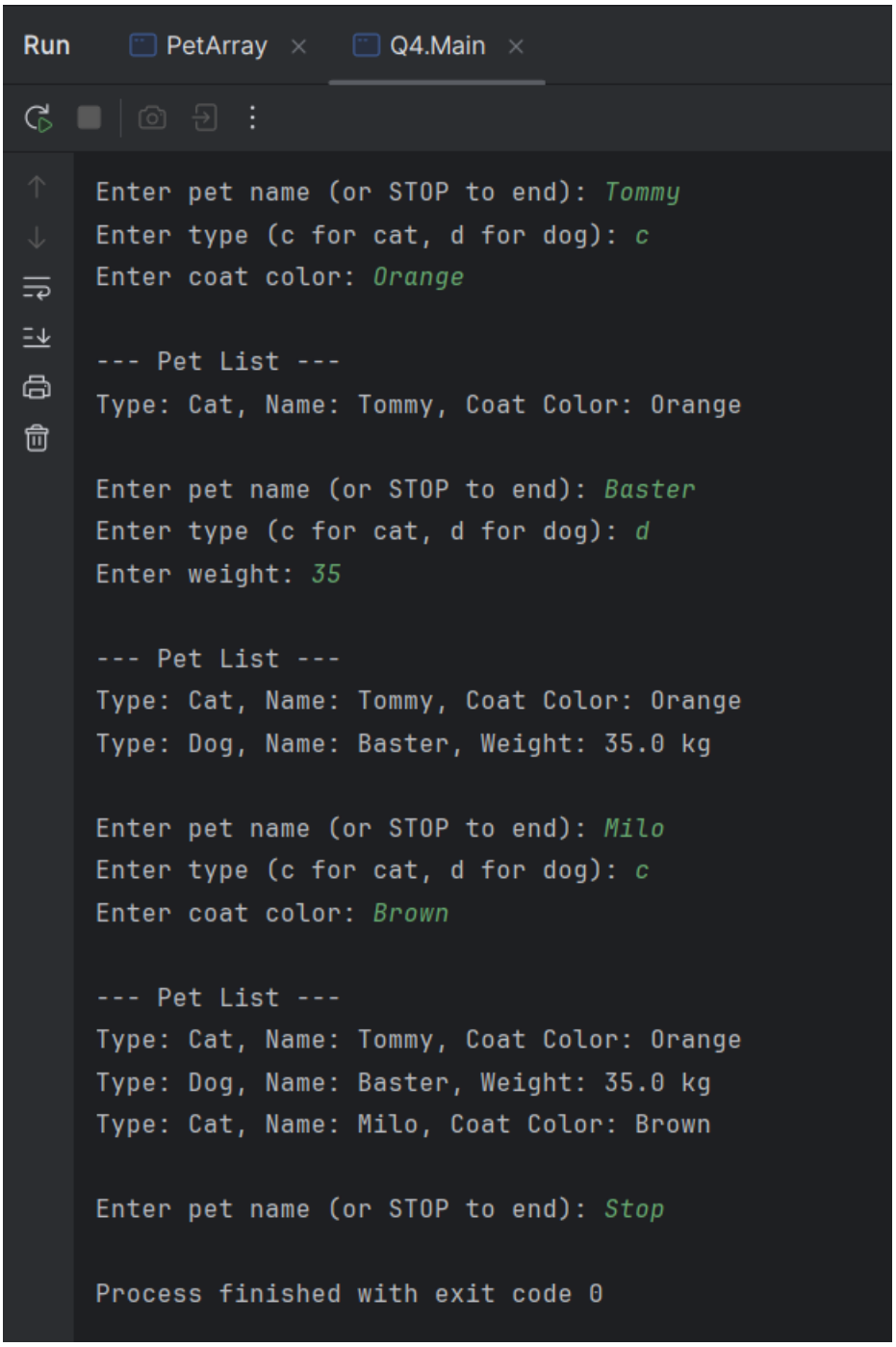
Output:


Run
PetArray
PetArray4
C:\Users\ASUS\.jdks\openjdk-23.0.2\bin\java.ex
Enter pet name (or STOP to end): Tommy
Enter type (c for cat, d for dog): c
Enter pet name (or STOP to end): Baster
Enter type (c for cat, d for dog): d
Enter pet name (or STOP to end): Blacky
Enter type (c for cat, d for dog): d
Enter pet name (or STOP to end): Milo
Enter type (c for cat, d for dog): c
Enter pet name (or STOP to end): STOP
--- List of Cats ---
Name: Tommy
Name: Milo
--- List of Dogs ---
Name: Baster
Name: Blacky
Process finished with exit code 0

Q4 Code Method 1:

```
package Q4;

import Q1.Pet;

import java.util.ArrayList;
import java.util.Scanner;

public class Main {
   public static void main(String[] args) {
      Scanner input=new Scanner(System.in);
      ArrayList<Pet> pets= new ArrayList<>();

      while(true){
         System.out.print("\nEnter pet name (or STOP to end): ");
         String name = input.nextLine();
         if (name.equalsIgnoreCase("STOP")) break;

         System.out.print("Enter type (c for cat, d for dog): ");
         String type = input.nextLine();

         if (type.equalsIgnoreCase("c")) {
            Cat2 cat = new Cat2();
            cat.setName(name);
            System.out.print("Enter coat color: ");
            cat.setCoatColor(input.nextLine());
            pets.add(cat);
         } else if (type.equalsIgnoreCase("d")) {
            Dog2 dog = new Dog2();
            dog.setName(name);
            System.out.print("Enter weight: ");
```

```
try {
                dog.setWeight(Double.parseDouble(input.nextLine()));
            } catch (NumberFormatException e) {
                System.out.println("Invalid weight, setting to 0.");
                dog.setWeight(0);
            }
            pets.add(dog);
        } else {
            System.out.println("Invalid type! Skipping entry.");
        }

        // Display results
        System.out.println("\n--- Pet List ---");
        for (Pet p : pets) {
            if (p instanceof Cat2 cat) {
                System.out.println("Type: Cat, Name: " + cat.getName() + ", Coat Color: " +
cat.getCoatColor());
            } else if (p instanceof Dog2 dog) {
                System.out.println("Type: Dog, Name: " + dog.getName() + ", Weight: " +
dog.getWeight() + " kg");
            }
        }
    }
  }
}
```

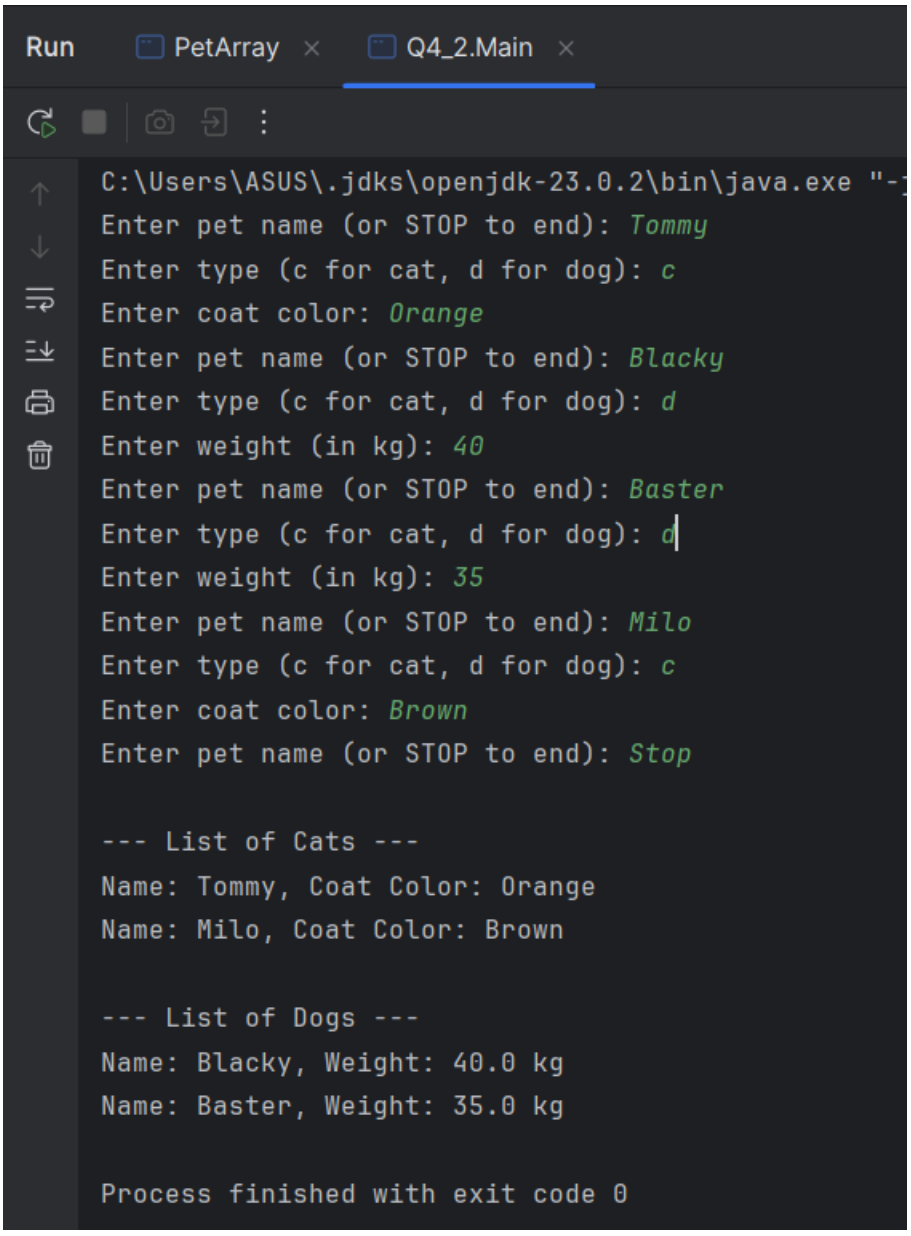

Run
PetArray
Q4.Main
Enter pet name (or STOP to end): Tommy
Enter type (c for cat, d for dog): c
Enter coat color: Orange
--- Pet List ---
Type: Cat, Name: Tommy, Coat Color: Orange
Enter pet name (or STOP to end): Baster
Enter type (c for cat, d for dog): d
Enter weight: 35
--- Pet List ---
Type: Cat, Name: Tommy, Coat Color: Orange
Type: Dog, Name: Baster, Weight: 35.0 kg
Enter pet name (or STOP to end): Milo
Enter type (c for cat, d for dog): c
Enter coat color: Brown
--- Pet List ---
Type: Cat, Name: Tommy, Coat Color: Orange
Type: Dog, Name: Baster, Weight: 35.0 kg
Type: Cat, Name: Milo, Coat Color: Brown
Enter pet name (or STOP to end): Stop
Process finished with exit code 0

Q4 Method 2;

```
package Q4_2;

import Q4.Cat2;
import Q4.Dog2;

import java.util.ArrayList;
import java.util.Scanner;

public class Main {
   public static void main(String[] args) {

      Scanner input = new Scanner(System.in);
      ArrayList<Cat2> cats = new ArrayList<>();
      ArrayList<Dog2> dogs = new ArrayList<>();

      // Input Loop
      while (true) {
         System.out.print("Enter pet name (or STOP to end): ");
         String name = input.nextLine();
         if (name.equalsIgnoreCase("STOP")) break;

         System.out.print("Enter type (c for cat, d for dog): ");
         String type = input.nextLine();

         if (type.equalsIgnoreCase("c")) {
            Cat2 cat = new Cat2();
            cat.setName(name);
            System.out.print("Enter coat color: ");
            cat.setCoatColor(input.nextLine());
            cats.add(cat);
         }
```

```
else if (type.equalsIgnoreCase("d")) {
            Dog2 dog = new Dog2();
            dog.setName(name);
            System.out.print("Enter weight (in kg): ");
            try {
               dog.setWeight(Double.parseDouble(input.nextLine()));
            } catch (NumberFormatException e) {
               System.out.println("Invalid weight! Setting to 0.");
               dog.setWeight(0);
            }
            dogs.add(dog);
         } else {
            System.out.println("Invalid type! Please enter 'c' or 'd'.");
         }
      }

      // Output Cats
      System.out.println("\n--- List of Cats ---");
      for (Cat2 c : cats) {
         System.out.println("Name: " + c.getName() + ", Coat Color: " + c.getCoatColor());
      }

      // Output Dogs
      System.out.println("\n--- List of Dogs ---");
      for (Dog2 d : dogs) {
         System.out.println("Name: " + d.getName() + ", Weight: " + d.getWeight() + " kg");
      }
   }
}
```

Output:

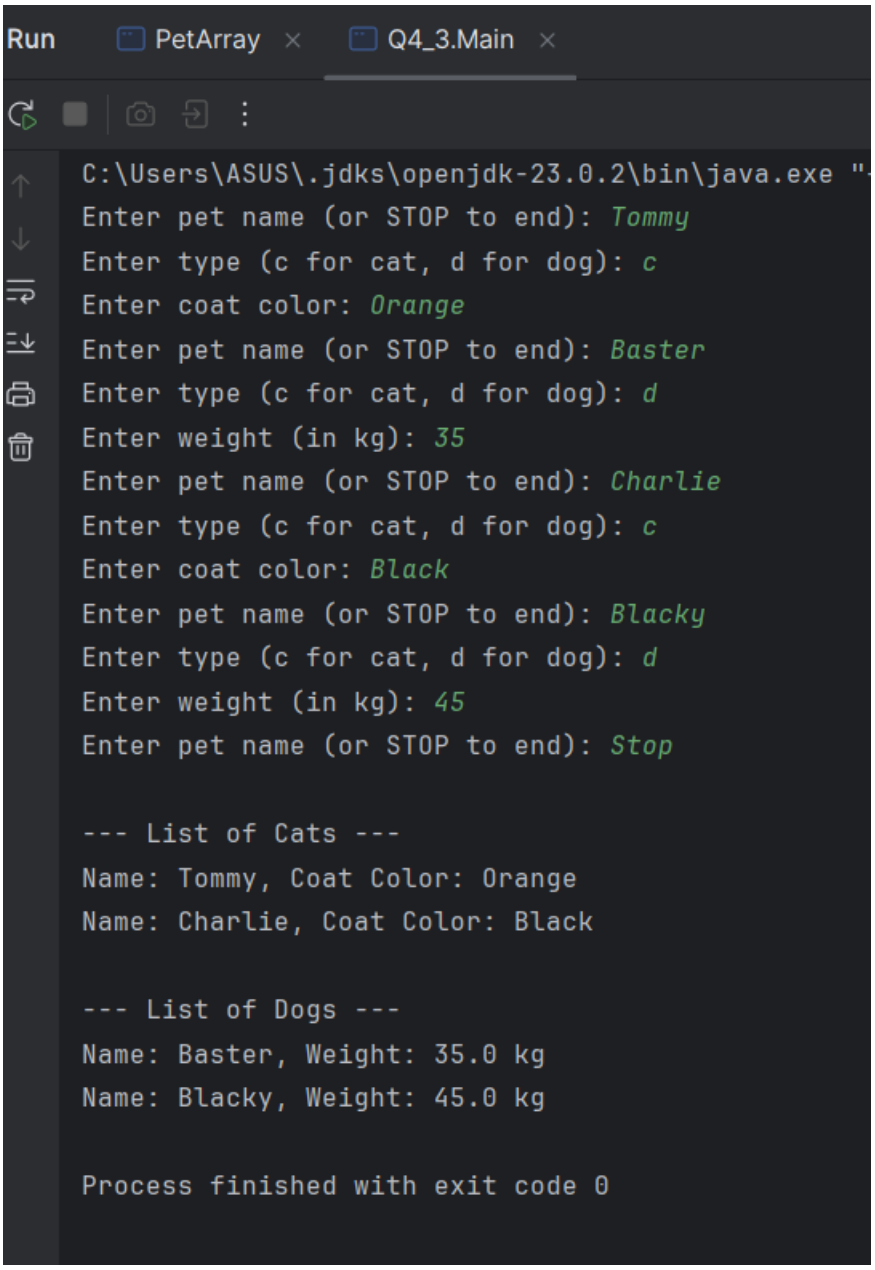

Run
PetArray
Q4_2.Main
C:\Users\ASUS\.jdks\openjdk-23.0.2\bin\java.exe "-
Enter pet name (or STOP to end): Tommy
Enter type (c for cat, d for dog): c
Enter coat color: Orange
Enter pet name (or STOP to end): Blacky
Enter type (c for cat, d for dog): d
Enter weight (in kg): 40
Enter pet name (or STOP to end): Baster
Enter type (c for cat, d for dog): d
Enter weight (in kg): 35
Enter pet name (or STOP to end): Milo
Enter type (c for cat, d for dog): c
Enter coat color: Brown
Enter pet name (or STOP to end): Stop
--- List of Cats ---
Name: Tommy, Coat Color: Orange
Name: Milo, Coat Color: Brown
--- List of Dogs ---
Name: Blacky, Weight: 40.0 kg
Name: Baster, Weight: 35.0 kg
Process finished with exit code 0

Q4 Code Method 3

```
package Q4_3;

import Q1.Pet;
import Q4.Cat2;
import Q4.Dog2;

import java.util.ArrayList;
import java.util.Scanner;

public class Main {
   public static void main(String[] args) {
      Scanner input = new Scanner(System.in);
      ArrayList<Pet> pets = new ArrayList<>();

      // Input Loop
      while (true) {
         System.out.print("Enter pet name (or STOP to end): ");
         String name = input.nextLine();
         if (name.equalsIgnoreCase("STOP")) break;

         System.out.print("Enter type (c for cat, d for dog): ");
         String type = input.nextLine();

         if (type.equalsIgnoreCase("c")) {
            Cat2 cat = new Cat2();
            cat.setName(name);
            System.out.print("Enter coat color: ");
            cat.setCoatColor(input.nextLine());
            pets.add(cat);
         }
```

```
else if (type.equalsIgnoreCase("d")) {
            Dog2 dog = new Dog2();
            dog.setName(name);
            System.out.print("Enter weight (in kg): ");
            try {
               dog.setWeight(Double.parseDouble(input.nextLine()));
            } catch (NumberFormatException e) {
               System.out.println("Invalid weight! Setting to 0.");
               dog.setWeight(0);
            }
            pets.add(dog);
         } else {
            System.out.println("Invalid type! Please enter 'c' or 'd'.");
         }
      }

      // Grouped Output
      System.out.println("\n--- List of Cats ---");
      for (Pet p : pets) {
         if (p instanceof Cat2 cat) {
            System.out.println("Name: " + cat.getName() + ", Coat Color: " + cat.getCoatColor());
         }
      }

      System.out.println("\n--- List of Dogs ---");
      for (Pet p : pets) {
         if (p instanceof Dog2 dog) {
            System.out.println("Name: " + dog.getName() + ", Weight: " + dog.getWeight() + "
kg");
         }
      }
   }
}
```

Output


Run
PetArray
Q4_3.Main
C:\Users\ASUS\.jdks\openjdk-23.0.2\bin\java.exe "
Enter pet name (or STOP to end): Tommy
Enter type (c for cat, d for dog): c
Enter coat color: Orange
Enter pet name (or STOP to end): Baster
Enter type (c for cat, d for dog): d
Enter weight (in kg): 35
Enter pet name (or STOP to end): Charlie
Enter type (c for cat, d for dog): c
Enter coat color: Black
Enter pet name (or STOP to end): Blacky
Enter type (c for cat, d for dog): d
Enter weight (in kg): 45
Enter pet name (or STOP to end): Stop
--- List of Cats ---
Name: Tommy, Coat Color: Orange
Name: Charlie, Coat Color: Black
--- List of Dogs ---
Name: Baster, Weight: 35.0 kg
Name: Blacky, Weight: 45.0 kg
Process finished with exit code 0

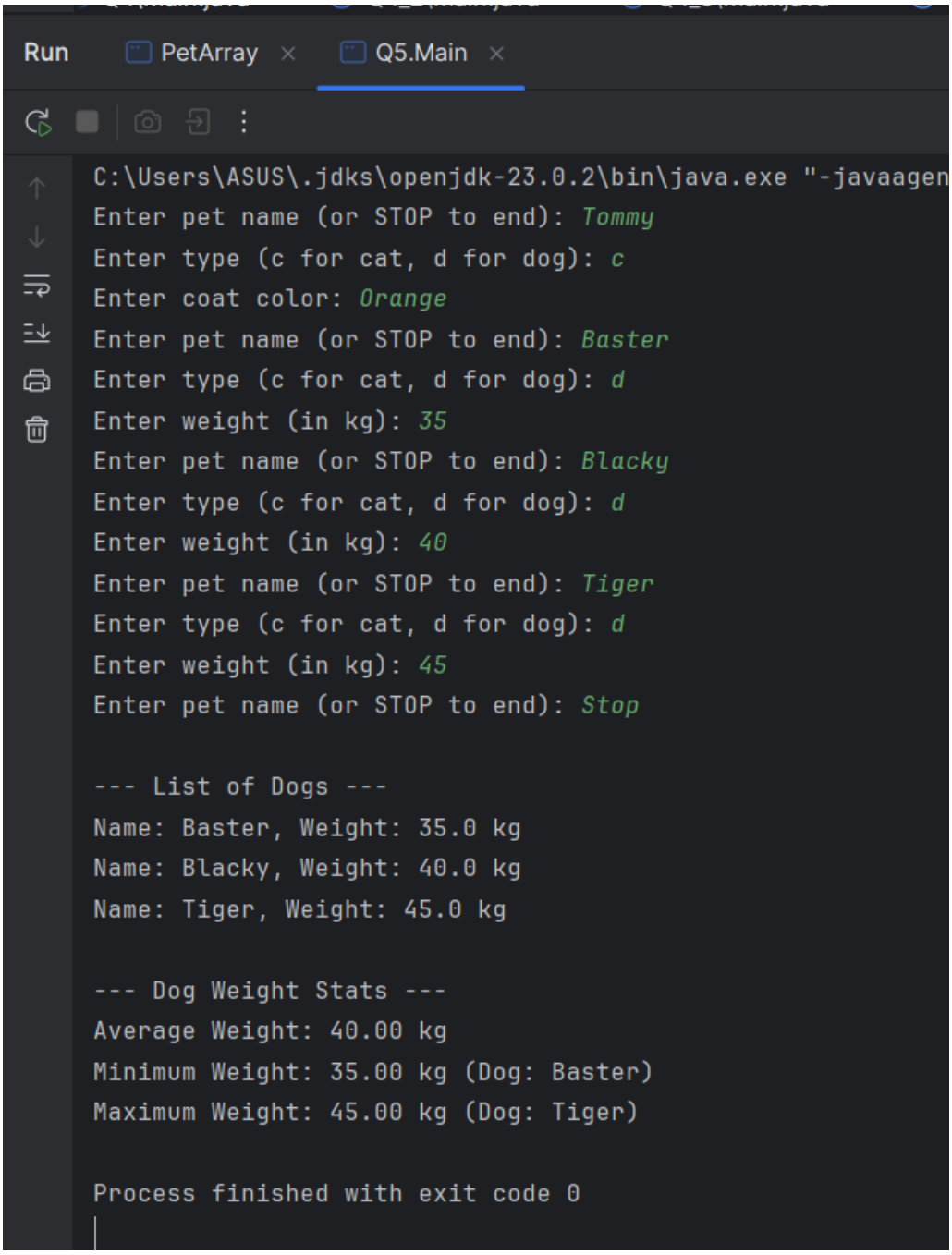
Q5 Code:

```
package Q5;

import Q1.Pet;
import Q4.Cat2;
import Q4.Dog2;

import java.util.ArrayList;
import java.util.Scanner;

public class Main {
  public static void main(String[] args) {
    Scanner input = new Scanner(System.in);
    ArrayList<Pet> pets = new ArrayList<>();

    // Step 1: Collect input for Dog and Cat objects
    while (true) {
      System.out.print("Enter pet name (or STOP to end): ");
      String name = input.nextLine();
      if (name.equalsIgnoreCase("STOP")) break;

      System.out.print("Enter type (c for cat, d for dog): ");
      String type = input.nextLine();

      if (type.equalsIgnoreCase("c")) {
        Cat2 cat = new Cat2();
        cat.setName(name);
        System.out.print("Enter coat color: ");
        cat.setCoatColor(input.nextLine());
        pets.add(cat);
      } else if (type.equalsIgnoreCase("d")) {
        Dog2 dog = new Dog2();
        dog.setName(name);
        System.out.print("Enter weight (in kg): ");
```

```
try {
        dog.setWeight(Double.parseDouble(input.nextLine()));
      } catch (NumberFormatException e) {
        System.out.println("Invalid input. Weight set to 0.");
        dog.setWeight(0);
      }
      pets.add(dog);
   } else {
      System.out.println("Invalid type. Please enter 'c' or 'd'.");
   }
}

// Step 2: Create a separate Dog array
ArrayList<Dog2> dogs = new ArrayList<>();
for (Pet p : pets) {
   if (p instanceof Dog2 dog) {
      dogs.add(dog);
   }
}

// Step 3: Print all dog details
System.out.println("\n--- List of Dogs ---");
if (dogs.isEmpty()) {
   System.out.println("No dogs found.");
} else {
   for (Dog2 d : dogs) {
      System.out.println("Name: " + d.getName() + ", Weight: " + d.getWeight() + " kg");
   }

   // Step 4: Calculate average, min, and max weights
   double totalWeight = 0;
   double minWeight = Double.MAX_VALUE;
   double maxWeight = Double.MIN_VALUE;
   Dog2 minDog = null;
   Dog2 maxDog = null;
```

```
for (Dog2 d : dogs) {
            double w = d.getWeight();
            totalWeight += w;

            if (w < minWeight) {
               minWeight = w;
               minDog = d;
            }

            if (w > maxWeight) {
               maxWeight = w;
               maxDog = d;
            }
         }

         double average = totalWeight / dogs.size();

         // Step 5: Print weight statistics
         System.out.println("\n--- Dog Weight Stats ---");
         System.out.printf("Average Weight: %.2f kg\n", average);
         System.out.printf("Minimum Weight: %.2f kg (Dog: %s)\n", minWeight,
minDog.getName());
         System.out.printf("Maximum Weight: %.2f kg (Dog: %s)\n", maxWeight,
maxDog.getName());
      }
   }
}
```

Output


Run
PetArray
Q5.Main
C:\Users\ASUS\.jdks\openjdk-23.0.2\bin\java.exe "-javaagen
Enter pet name (or STOP to end): Tommy
Enter type (c for cat, d for dog): c
Enter coat color: Orange
Enter pet name (or STOP to end): Baster
Enter type (c for cat, d for dog): d
Enter weight (in kg): 35
Enter pet name (or STOP to end): Blacky
Enter type (c for cat, d for dog): d
Enter weight (in kg): 40
Enter pet name (or STOP to end): Tiger
Enter type (c for cat, d for dog): d
Enter weight (in kg): 45
Enter pet name (or STOP to end): Stop
--- List of Dogs ---
Name: Baster, Weight: 35.0 kg
Name: Blacky, Weight: 40.0 kg
Name: Tiger, Weight: 45.0 kg
--- Dog Weight Stats ---
Average Weight: 40.00 kg
Minimum Weight: 35.00 kg (Dog: Baster)
Maximum Weight: 45.00 kg (Dog: Tiger)
Process finished with exit code 0

Q6 Code:

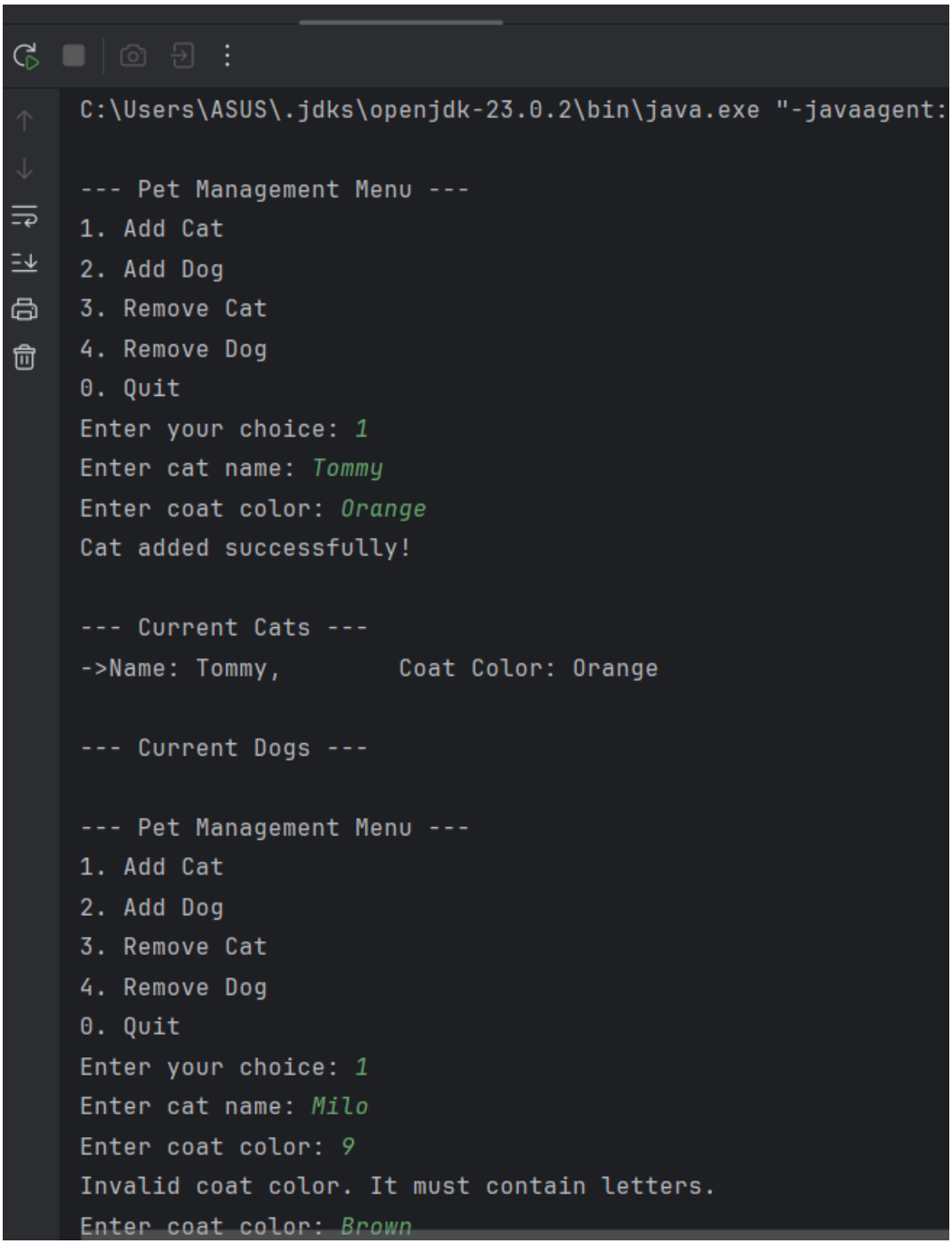
```
package Q6;
import Q1.Pet;
import Q4.Cat2;
import Q4.Dog2;

import java.util.ArrayList;
import java.util.Scanner;

public class Main {
   public static void main(String[] args) {
      Scanner input = new Scanner(System.in);

      ArrayList<Pet> pets = new ArrayList<>();
      ArrayList<Dog2> dogs = new ArrayList<>();
      ArrayList<Cat2> cats = new ArrayList<>();

      int choice;

      do {
         System.out.println("\n--- Pet Management 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("0. Quit");
         System.out.print("Enter your choice: ");
         choice = Integer.parseInt(input.nextLine());

         switch (choice) {
            case 1 -> {
               Cat2 cat = new Cat2();
               System.out.print("Enter cat name: ");
               cat.setName(input.nextLine());

               // Validate coat color (must contain at least one letter)
```

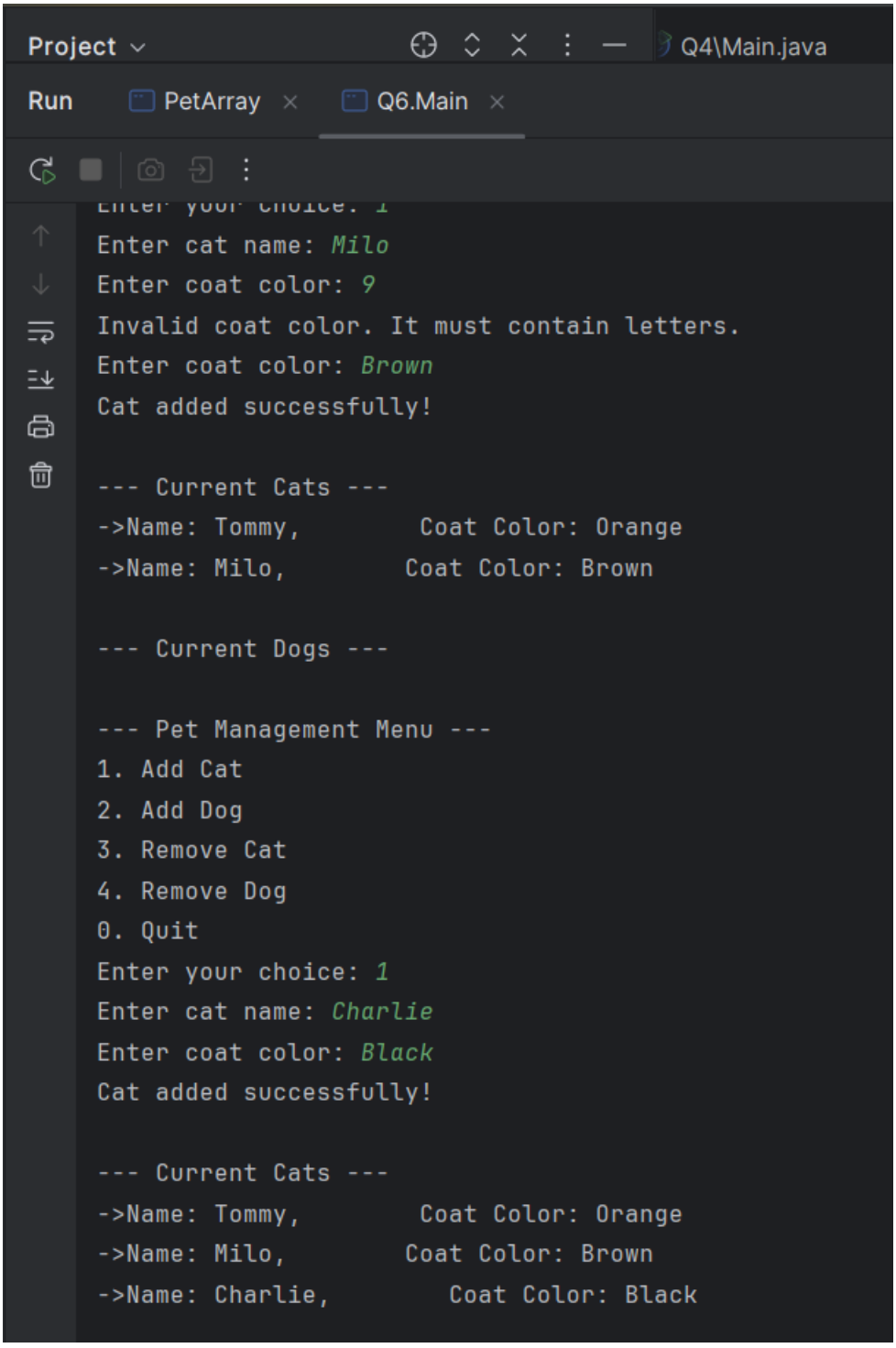
```
while (true) {
      System.out.print("Enter coat color: ");
      String color = input.nextLine();
      if (color.matches(".*[a-zA-Z]+.*")) {
         cat.setCoatColor(color);
         break;
      } else {
         System.out.println("Invalid coat color. It must contain letters.");
      }
   }

   cats.add(cat);
   pets.add(cat);
   System.out.println("Cat added successfully!");
}

case 2 -> {
   Dog2 dog = new Dog2();
   System.out.print("Enter dog name: ");
   dog.setName(input.nextLine());

   // Validate weight (must be >= 0)
   while (true) {
      System.out.print("Enter weight (in kg): ");
      try {
         double weight = Double.parseDouble(input.nextLine());
         if (weight > 0) {
            dog.setWeight(weight);
            break;
         } else {
            System.out.println("Weight cannot be negative or Zero. Try again.");
         }
      } catch (NumberFormatException e) {
         System.out.println("Invalid input! Please enter a valid number.");
      }
   }
```

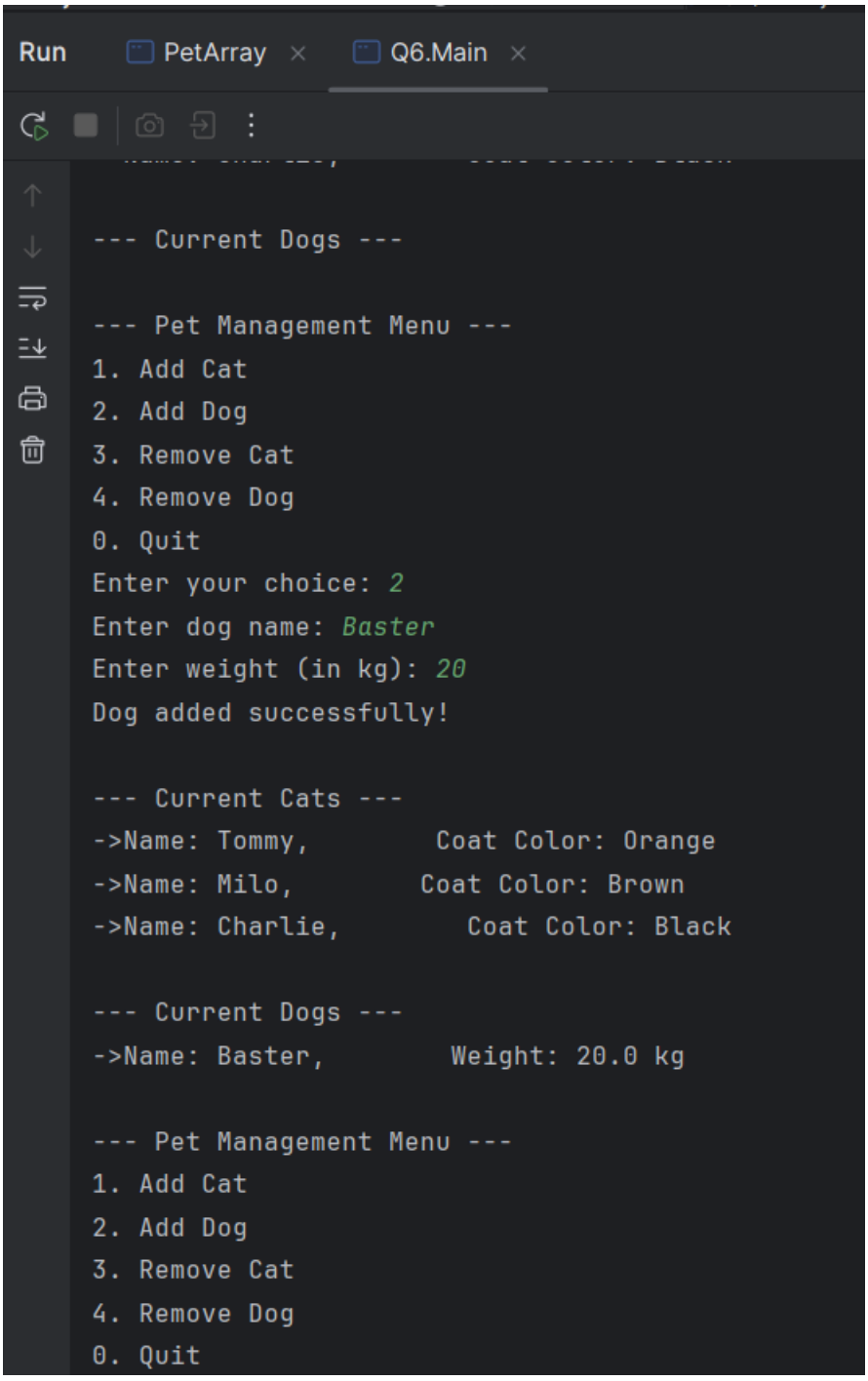
```
dogs.add(dog);
   pets.add(dog);
   System.out.println("Dog added successfully!");
}

case 3 -> {
   System.out.print("Enter cat name to remove: ");
   String nameToRemove = input.nextLine();

   Cat2 toRemove = null;
   for (Cat2 c : cats) {
      if (c.getName().equalsIgnoreCase(nameToRemove)) {
         toRemove = c;
         break;
      }
   }

   if (toRemove != null) {
      cats.remove(toRemove);
      pets.remove(toRemove);
      System.out.println("Cat removed successfully.");
   } else {
      System.out.println("Cat not found.");
   }
}

case 4 -> {
   System.out.print("Enter dog name to remove: ");
   String nameToRemove = input.nextLine();

   Dog2 toRemove = null;
   for (Dog2 d : dogs) {
      if (d.getName().equalsIgnoreCase(nameToRemove)) {
         toRemove = d;
         break;
      }
   }
```

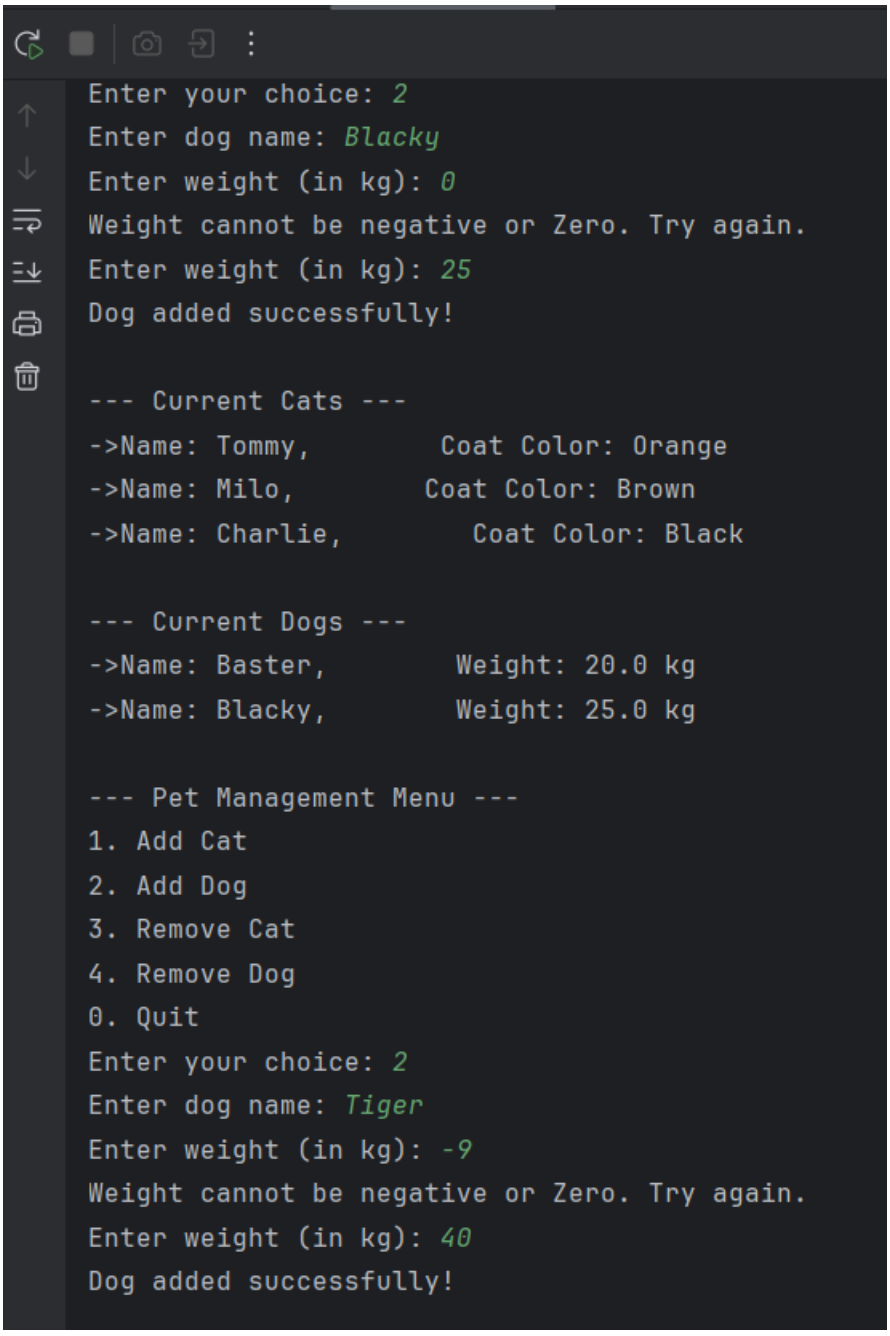
```
if (toRemove != null) {
                dogs.remove(toRemove);
                pets.remove(toRemove);
                System.out.println("Dog removed successfully.");
            } else {
                System.out.println("Dog not found.");
            }
        }

        case 0 -> System.out.println("Exiting...");

        default -> System.out.println("Invalid choice. Please try again.");
      }

      // Show updated lists
      System.out.println("\n--- Current Cats ---");
      for (Cat2 c : cats) {
        System.out.println("->Name: " + c.getName() + ",      Coat Color: " + c.getCoatColor());
      }

      System.out.println("\n--- Current Dogs ---");
      for (Dog2 d : dogs) {
        System.out.println("->Name: " + d.getName() + ",      Weight: " + d.getWeight() + " kg");
      }

    } while (choice != 0);
  }
}
```

Output:


C:\Users\ASUS\.jdks\openjdk-23.0.2\bin\java.exe "-javaagent:
--- Pet Management Menu ---
1. Add Cat
2. Add Dog
3. Remove Cat
4. Remove Dog
0. Quit
Enter your choice: 1
Enter cat name: Tommy
Enter coat color: Orange
Cat added successfully!
--- Current Cats ---
->Name: Tommy, Coat Color: Orange
--- Current Dogs ---
--- Pet Management Menu ---
1. Add Cat
2. Add Dog
3. Remove Cat
4. Remove Dog
0. Quit
Enter your choice: 1
Enter cat name: Milo
Enter coat color: 9
Invalid coat color. It must contain letters.
Enter coat color: Brown


Project
Q4\Main.java
Run
PetArray
Q6.Main
Enter your choice: 1
Enter cat name: Milo
Enter coat color: 9
Invalid coat color. It must contain letters.
Enter coat color: Brown
Cat added successfully!
--- Current Cats ---
->Name: Tommy, Coat Color: Orange
->Name: Milo, Coat Color: Brown
--- Current Dogs ---
--- Pet Management Menu ---
1. Add Cat
2. Add Dog
3. Remove Cat
4. Remove Dog
0. Quit
Enter your choice: 1
Enter cat name: Charlie
Enter coat color: Black
Cat added successfully!
--- Current Cats ---
->Name: Tommy, Coat Color: Orange
->Name: Milo, Coat Color: Brown
->Name: Charlie, Coat Color: Black


Run
PetArray
Q6.Main
--- Current Dogs ---
--- Pet Management Menu ---
1. Add Cat
2. Add Dog
3. Remove Cat
4. Remove Dog
0. Quit
Enter your choice: 2
Enter dog name: Baster
Enter weight (in kg): 20
Dog added successfully!
--- Current Cats ---
->Name: Tommy, Coat Color: Orange
->Name: Milo, Coat Color: Brown
->Name: Charlie, Coat Color: Black
--- Current Dogs ---
->Name: Baster, Weight: 20.0 kg
--- Pet Management Menu ---
1. Add Cat
2. Add Dog
3. Remove Cat
4. Remove Dog
0. Quit


Enter your choice: 2
Enter dog name: Blacky
Enter weight (in kg): 0
Weight cannot be negative or Zero. Try again.
Enter weight (in kg): 25
Dog added successfully!
--- Current Cats ---
->Name: Tommy, Coat Color: Orange
->Name: Milo, Coat Color: Brown
->Name: Charlie, Coat Color: Black
--- Current Dogs ---
->Name: Baster, Weight: 20.0 kg
->Name: Blacky, Weight: 25.0 kg
--- Pet Management Menu ---
1. Add Cat
2. Add Dog
3. Remove Cat
4. Remove Dog
0. Quit
Enter your choice: 2
Enter dog name: Tiger
Enter weight (in kg): -9
Weight cannot be negative or Zero. Try again.
Enter weight (in kg): 40
Dog added successfully!

```
--- Current Cats ---
->Name: Tommy,         Coat Color: Orange
->Name: Milo,         Coat Color: Brown
->Name: Charlie,         Coat Color: Black

--- Current Dogs ---
->Name: Baster,         Weight: 20.0 kg
->Name: Blacky,         Weight: 25.0 kg
->Name: Tiger,         Weight: 40.0 kg

--- Pet Management Menu ---
1. Add Cat
2. Add Dog
3. Remove Cat
4. Remove Dog
0. Quit
Enter your choice: 3
Enter cat name to remove: Snowy
Cat not found.

--- Current Cats ---
->Name: Tommy,         Coat Color: Orange
->Name: Milo,         Coat Color: Brown
->Name: Charlie,         Coat Color: Black

--- Current Dogs ---
->Name: Baster,         Weight: 20.0 kg
->Name: Blacky,         Weight: 25.0 kg
->Name: Tiger,         Weight: 40.0 kg
```

```
--- Pet Management Menu ---
1. Add Cat
2. Add Dog
3. Remove Cat
4. Remove Dog
0. Quit
Enter your choice: 3
Enter cat name to remove: Charlie
Cat removed successfully.

--- Current Cats ---
->Name: Tommy,         Coat Color: Orange
->Name: Milo,         Coat Color: Brown

--- Current Dogs ---
->Name: Baster,         Weight: 20.0 kg
->Name: Blacky,         Weight: 25.0 kg
->Name: Tiger,         Weight: 40.0 kg

--- Pet Management Menu ---
1. Add Cat
2. Add Dog
3. Remove Cat
4. Remove Dog
0. Quit
Enter your choice: 4
Enter dog name to remove: Sofia
Dog not found.
```

```
--- Current Cats ---
->Name: Tommy,         Coat Color: Orange
->Name: Milo,         Coat Color: Brown

--- Current Dogs ---
->Name: Baster,         Weight: 20.0 kg
->Name: Blacky,         Weight: 25.0 kg
->Name: Tiger,         Weight: 40.0 kg

--- Pet Management Menu ---
1. Add Cat
2. Add Dog
3. Remove Cat
4. Remove Dog
0. Quit
Enter your choice: 4
Enter dog name to remove: Tiger
Dog removed successfully.

--- Current Cats ---
->Name: Tommy,         Coat Color: Orange
->Name: Milo,         Coat Color: Brown

--- Current Dogs ---
->Name: Baster,         Weight: 20.0 kg
->Name: Blacky,         Weight: 25.0 kg
```

```
Dog removed successfully.

--- Current Cats ---
->Name: Tommy,        Coat Color: Orange
->Name: Milo,        Coat Color: Brown

--- Current Dogs ---
->Name: Baster,        Weight: 20.0 kg
->Name: Blacky,        Weight: 25.0 kg

--- Pet Management Menu ---
1. Add Cat
2. Add Dog
3. Remove Cat
4. Remove Dog
0. Quit
Enter your choice: 0
Exiting...

--- Current Cats ---
->Name: Tommy,        Coat Color: Orange
->Name: Milo,        Coat Color: Brown

--- Current Dogs ---
->Name: Baster,        Weight: 20.0 kg
->Name: Blacky,        Weight: 25.0 kg

Process finished with exit code 0
```