

Dog class

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main class code

```
public class Dog {

    String name;

    String breed;

    int age;

    int size;

    // static member to count the number of dog instances

    static int numberOfDogs = 0;

    // constructor

    Dog() {

        // Increment the static counter

        numberOfDogs++;

    }

    Dog(String name, int age, String breed, int size) {

        this.name = name;

        this.age = age;

        this.breed = breed;

        this.size = size;

    }

}
```

```
// Increment the static counter

numberOfDogs++;

}

void displayDetails() {

    System.out.println("Name: " + name);

    System.out.println("Age: " + age);

    System.out.println("Breed: " + breed);

    System.out.println("Size: " + size);

    System.out.println();

}

static int getNumberOfDogs() {

    return numberOfDogs;

}

void eat() {

    System.out.println("The dog is eating");

}

void sleep() {

    System.out.println("The dog is sleeping");

}
```

```
void bark() {

    System.out.println("The dog is barking");

}

void play() {

    System.out.println("The dog is playing");

}

public static void main(String[] args) {

    Dog dog1 = new Dog("Buddy", 3, "Golden Retriever", 30);

    Dog dog2 = new Dog("Max", 2, "German Shepherd", 40);

    Dog dog3 = new Dog("Rocky", 1, "Poodle", 20);

    dog1.displayDetails();

    dog2.displayDetails();

    dog3.displayDetails();

    dog3.bark();

    System.out.println("The total number of dogs: " +
Dog.getNumberOfDogs());

}

}
```

OUTPUT

```
PS D:\Documents\Algorithms\dsa-notes-java\AdvancedJavaConcepts> java Dog
Name: Buddy
Age: 3
Breed: Golden Retriever
Size: 30

Name: Max
Age: 2
Breed: German Shepherd
Size: 40

Name: Rocky
Age: 1
Breed: Poodle
Size: 20

The dog is barking
The total number of dogs: 3
PS D:\Documents\Algorithms\dsa-notes-java\AdvancedJavaConcepts> |
```

Subclass PetDog

```
public class PetDog extends Dog {

    private static int totalPetDogs = 0;

    private String ownerName;

    public PetDog(String name, int age, String breed, int size, String
ownerName) {

        super(name, age, breed, size);

        this.ownerName = ownerName;

        totalPetDogs++;

    }

    public static int getTotalPetDogs() {

        return totalPetDogs;

    }

}
```

```

    public void displayOwnerDetails() {

        System.out.println("Owner's Name: " + ownerName);

        displayDetails();

    }

    public static void main(String[] args) {

        PetDog petDog1 = new PetDog("Buddy", 3, "Golden Retriever", 30,
        "Alice");

        PetDog petDog2 = new PetDog("Max", 2, "German Shepherd", 40, "Bob");

        petDog1.displayOwnerDetails();

        petDog2.displayOwnerDetails();

        System.out.println("Total PetDogs: " + PetDog.getTotalPetDogs());

    }

}

```

OUTPUT

```

PS D:\Documents\Algorithms\dsa-notes-java\AdvancedJavaConcepts\DogClass> java PetDog
Owner's Name: Alice
Name: Buddy
Age: 3
Breed: Golden Retriever
Size: 30

Owner's Name: Bob
Name: Max
Age: 2
Breed: German Shepherd
Size: 40

Total PetDogs: 2

```