Dog class

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