

```
package virtualfunctions;

public class Animal {
    static int animals=0;
    int animalNumber = animals;
    static int aVar=0;
    int anotherVar=0;
    static {
        System.out.println("Static constructor for animal!\n animals="+animals);
    }
    {
        animalNumber = animals;
        System.out.println("Anomymous constructor for animal!\n animals="
                                +animals++);
    }

    public void voice() {
        aVar++;
        anotherVar++;
        System.out.println("Animal "+animalNumber+": ?? Avar is "+aVar+
                                " anotherVar is "+anotherVar);
    }

    public void voice(int i) {
        for (int j=0;j<i;j++) {
            voice();
        }
    }

    public void greet(Animal a) {
        aVar++;
        anotherVar++;
        System.out.println("Animal "+animalNumber+": Hi Animal! aVar is "
                                +aVar+" anotherVar is "+anotherVar);

        voice();
        a.voice();
    }

    public void greet(Dog c) {
        aVar++;
        anotherVar++;
        System.out.println("Animal "+animalNumber+": Hi Dog! aVar is "+
                                aVar+" anotherVar is "+anotherVar);

        voice();
        c.voice();
    }

    public static void noise() {
        System.out.println("Animal: zzz");
    }

    public static void moreNoise(Animal a) {
        System.out.println("ZZZZ!");
        noise();
        a.noise();
        a.voice();
    }
}
```

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public static void moreNoise(Dog c) {
    System.out.println("GRRRRR!");
    noise();
    c.noise();
    c.voice();
}
public static void insistentNoise(Animal a) {
    noise();
    a.noise();
}
public void veryInsistentNoise(Animal a) {
    aVar++;
    anotherVar++;
    voice();
    noise();
    a.voice();
    a.noise();
    System.out.println("Now aVar is "+aVar+" anotherVar is "+anotherVar);
}
/**
 * @param args
 */
public static void main(String[] args) {
    Animal anAnimal = new Animal();
    Animal anotherAnimal = new Dog();
    Dog anotherDog = new Dog();

    System.out.println("-----");
    anAnimal.voice();
    System.out.println("-");
    anAnimal.voice(3);
    System.out.println("-");
    anotherAnimal.voice();
    System.out.println("-");
    anotherAnimal.voice(3);
    System.out.println("-");
    anotherDog.voice();
    System.out.println("-");
    anotherDog.voice(3);
    System.out.println("-----");
    anAnimal.greet(anAnimal);
    System.out.println("-");
    anAnimal.greet(anotherAnimal);
    System.out.println("-");
    anAnimal.greet(anotherDog);
    System.out.println("---");
    anotherAnimal.greet(anAnimal);
    System.out.println("-");
    anotherAnimal.greet(anotherAnimal);
    System.out.println("-");
    anotherAnimal.greet(anotherDog);
    System.out.println("---");
    anotherDog.greet(anAnimal);
    System.out.println("-");
    anotherDog.greet(anotherAnimal);
    System.out.println("-");
}

```

```
anotherDog.greet(anotherDog);
System.out.println("-----");
anAnimal.noise();
System.out.println("-");
anotherAnimal.noise();
System.out.println("-");
anotherDog.noise();
System.out.println("-----");
anAnimal.moreNoise(anAnimal);
System.out.println("-");
anAnimal.moreNoise(anotherAnimal);
System.out.println("-");
anAnimal.moreNoise(anotherDog);
System.out.println("---");
anotherAnimal.moreNoise(anAnimal);
System.out.println("-");
anotherAnimal.moreNoise(anotherAnimal);
System.out.println("-");
anotherAnimal.moreNoise(anotherDog);
System.out.println("---");
anotherDog.moreNoise(anAnimal);
System.out.println("-");
anotherDog.moreNoise(anotherAnimal);
System.out.println("-");
anotherDog.moreNoise(anotherDog);
System.out.println("-----");
anAnimal.insistentNoise(anAnimal);
System.out.println("-");
anAnimal.insistentNoise(anotherAnimal);
System.out.println("-");
anAnimal.insistentNoise(anotherDog);
System.out.println("---");
anotherAnimal.insistentNoise(anAnimal);
System.out.println("-");
anotherAnimal.insistentNoise(anotherAnimal);
System.out.println("-");
anotherAnimal.insistentNoise(anotherDog);
System.out.println("---");
anotherDog.insistentNoise(anAnimal);
System.out.println("-");
anotherDog.insistentNoise(anotherAnimal);
System.out.println("-");
anotherDog.insistentNoise(anotherDog);
System.out.println("-----");
anAnimal.veryInsistentNoise(anAnimal);
System.out.println("-");
anAnimal.veryInsistentNoise(anotherAnimal);
System.out.println("-");
anAnimal.veryInsistentNoise(anotherDog);
System.out.println("---");
anotherAnimal.veryInsistentNoise(anAnimal);
System.out.println("-");
anotherAnimal.veryInsistentNoise(anotherAnimal);
System.out.println("-");
anotherAnimal.veryInsistentNoise(anotherDog);
System.out.println("---");
```

```
        anotherDog.veryInsistentNoise(anAnimal);
        System.out.println("-");
        anotherDog.veryInsistentNoise(anotherAnimal);
        System.out.println("-");
        anotherDog.veryInsistentNoise(anotherDog);
        System.out.println("-----");
    }
}
```

```
package virtualfunctions;

public class Dog extends Animal {

    static int animals=0;
    int animalNumber = animals;
    static int aVar=0;
    int anotherVar=0;
    static {
        System.out.println("Static constructor for dog!\n animals="+animals);
    }
    {
        animalNumber = animals;
        System.out.println("Anomimous constructor for dog!\n animals="+animals++);
    }

    public void voice() {
        System.out.println("Dog "+animalNumber+": bau. aVar is "
                           +aVar+" anotherVar is "+anotherVar);

        aVar++;
        anotherVar++;
    }
    public void voice(int i) {
        for (int j=0;j<i;j++) {
            voice();
        }
    }
    public static void noise() {
        System.out.println("grrrrr");
    }
}
```