

using a package member from outside its package

must use fully qualified name
animals.Dog
to use class (member)
new animal- s.Dog();
this is from the animals package

how to prevent

EXAMPLE

```

Patient.java
public class Patient{
    private String name;
    private int age;
    private double[] temps;
    public Patient(String n, int a, double[] t){
        this.name = n;
        this.age = a;
        this.temps = t;
    }
}

TestPatient.java
public class TestPatient{
    public static void main(String[] args) {
        double[] tempsForP = {37.9, 38.6, 40.0, 37.4, 36.5};
        Patient p = new Patient("John", 42, tempsForP);
        tempsForP[0] = 0.0;
    }
}
    
```

The last statement in TestPatient.java will change the value of the field temps even though it is a private field!

create a deep copy in the constructor

condition for class to be immutable

if all fields are private and no mutator methods
only way to assign values to fields through constructor
if public or set type is provided, its mutable
if fields are private and no get or set methods...its immutable

static vs non-static

static is called on class
nonstatic is called on object
reference static from outside class
from outside class: ClassName.v- rName
call from outside class: obj.metho- dName()
ClassName.v- rName

static vs non-static (cont)

reference obj from outside class
obj.va- rName

changing static

g2.msg, g.msg
change g2.msg if static will change g.msg

java auto imports two packages each src file

java.lang package the current package

! imports!

in patient class, overload the constructor by adding another one that takes as input age, name, temperatures of new patient
does it make a difference if we copy the elements of the input array, or just the address directly

this field in static method

no

if field is package private, (no access modifier)

can access as long as classes are in the same package
public class Dog { String name';}

from class beagle, can access through d.name

overloading constructor

create two constructors in same class file
one takes no input, other takes input

does a constructor have to initialize all fields?

no...other fields will be initialized by default
in java you cannot assign default value in args

static method access

if method is static, has access to class variables
if method is not static, has access to both class and instance variables

can only access field by class name if

public and static, not public is insufficient

the result of the new operator is

a reference to the new object
Random random- Generator = new Random();

methods; same package but different classes

we need to use name of class.method to access

can we access private field from constructor?

january 19 second slide
no cannot, need getter or setter...but the field is initialized just not accesible

in what case do we try to leave fields public?

if they are constants

private vs public fields

private field is accessible only within class in which it was written
public field is accessible from anywhere

package private is only accessible within class, or its own package...not accessible to world