

Chapter 6

A closer look at methods and classes

Based on the course
literature:

Java: A beginner's guide

Fifth Edition

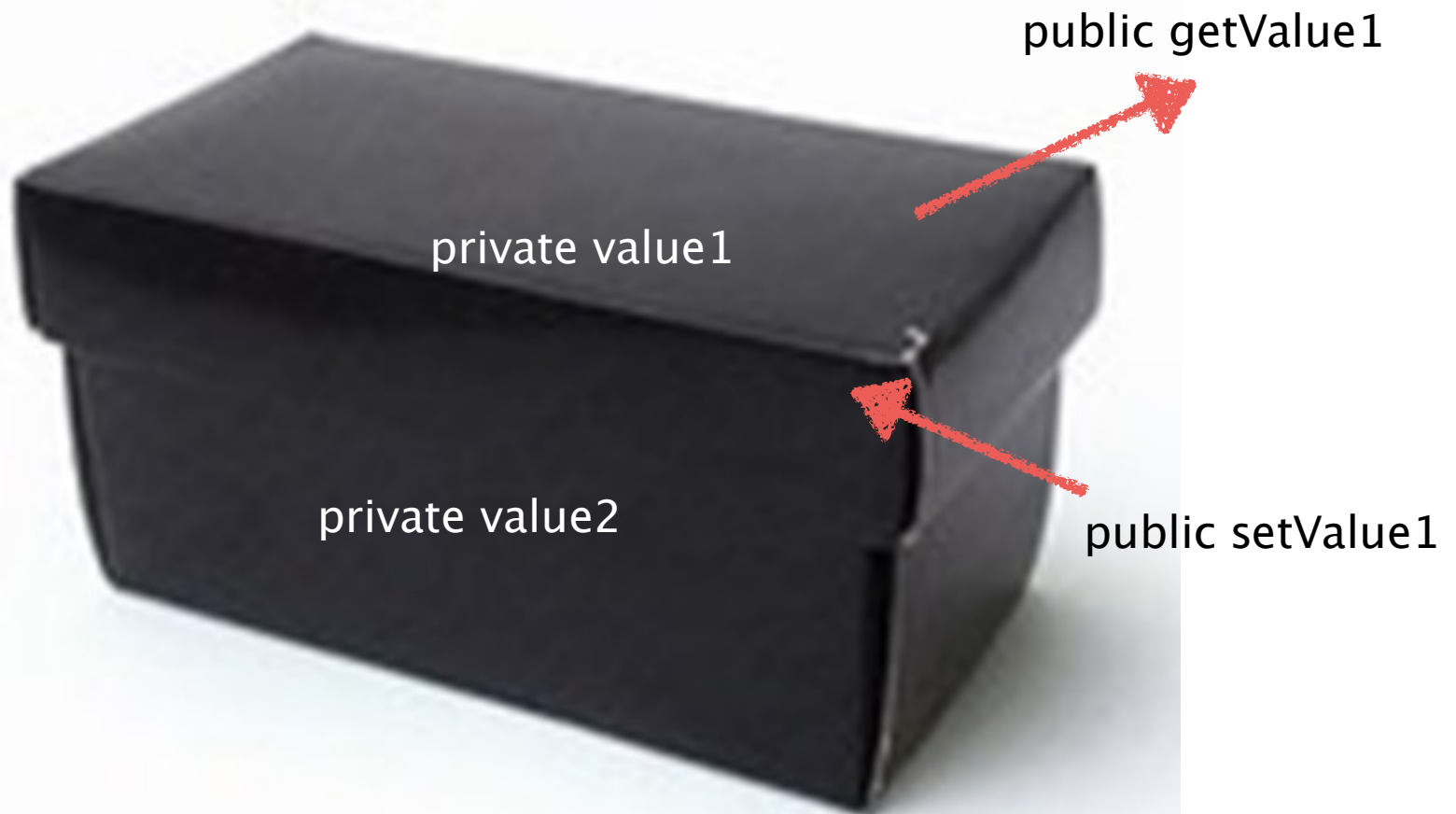
Herbert Schildt

What we'll cover

- Control access to members
- Pass and return objects to and from methods
- Overload methods and constructors
- Use recursion
- Apply static
- Use inner classes
- Use varargs

Controlling access to members

- public members:
can be accessed outside of the class
the member is defined within.
- private members:
can only be accessed inside of the class
the member is defined within.



default

```
// A public class with a public method
class User {
    int getNumber(){
        return 3;
    }
}
```

When you don't define an access modifier
the class and members are by default public

Access modifiers

- The 3 access modifiers are
 - public
 - private
 - protected
- Protected is discussed with inheritance in chapter 8.

Demo1

Static

- Static members are the same for all instances.
- Static methods:
 - Call only other static methods
 - Access only static data
 - Do not have access to this.

Demo 2 & Demo 3

Overloading

- Multiple methods can share the same name as long as their parameter declarations are different.

```
int add(int a, int b){  
}
```

```
double add(double a, double b){  
}
```

varargs

- Another method for flexible method parameters is variable length arguments.
- In this case `v` is an array of `int`'s

```
public static int add(int ... v){  
  
}  
// This is how the function could be used  
add(1,54,7,8,9,376);
```

Demo 4

Overloading constructors

```
public class Demo5 {  
    private double accountBalance;  
  
    Demo5(){  
        this.accountBalance = 0;  
    }  
  
    Demo5(double startingBalance){  
        this.accountBalance = startingBalance;  
    }  
}
```

Demo 5

Objects as parameters

- Passed by-reference
- Whereas primitives are always by-value

Demo 6

Nested /inner classes

Demo 7