

Ch.2 Understanding Class Definitions

Fields, Parameters,
and Local Variables

Recall: Fields

```
public class SomeClass
{
    // Fields
    private int total;
    private boolean isVisible;
    private String name;

    // Constructors
    // Methods
}
```

Fields store state values for the class, and can be accessed by any method in the class.

Recall: Parameters

```
public void insertMoney(int amount)
{
    balance = balance + amount;
}
```

A parameter is used to pass information into a method. It has a short lifetime, lasting only as long as the method that uses it.

Local Variables

```
public int refundBalance()  
{  
    int amountToRefund;  
    amountToRefund = balance;  
    balance = 0;  
    return amountToRefund;  
}
```

A local variable is declared *inside* a method.

Local Variables

```
public int refundBalance()  
{  
    int amountToRefund;  
    amountToRefund = balance;  
    balance = 0;  
    return amountToRefund;  
}
```

Like a *parameter*, a local variable belongs to the method where it is declared. It has a short lifetime, and never has *public* or *private* in its declaration.

Local Variables

```
public int refundBalance()  
{  
    int amountToRefund;  
    amountToRefund = balance;  
    balance = 0;  
    return amountToRefund;  
}
```

Local variables are often used as temporary storage for values. They are destroyed when the method finishes, and they cannot be used outside the method.

Scope

Fields, parameters, and local variables each have limitations on where they can be used. In programming, such restrictions are called scope.

Fields declared as *private* can be used anywhere inside the class definition.

Parameters can be used inside the *constructor* or *method* that defines them.

Local variables can be used inside the *block* where they are defined (for now, that will be the method where they are defined).

Assigned Work

Read pages 41 to 42 (Section 2.13 to 2.14)

Record your answers in a text document or OpenOffice document

Complete exercises 2.53 to 2.58