

Java Programming AP Edition

U2C6 Methods

METHOD

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Opening Problem

Find the sum of integers from 1 to 10, from 20 to 37, and from 35 to 49, respectively.

```
int sum = 0;    /* redundancy */
for (int i = 1; i <= 10; i++)
    sum += i;
System.out.println("Sum from 1 to 10 is " + sum);
```

```
sum = 0;       /* redundancy */
for (int i = 20; i <= 37; i++)
    sum += i;
System.out.println("Sum from 20 to 37 is " + sum);
```

```
sum = 0;       /* redundancy */
for (int i = 35; i <= 49; i++)
    sum += i;
System.out.println("Sum from 35 to 49 is " + sum);
```

```
public static int sum(int i1, int i2) {  
    int result = 0;  
    for (int i = i1; i <= i2; i++)  
        result += i;  
    return result;  
}
```

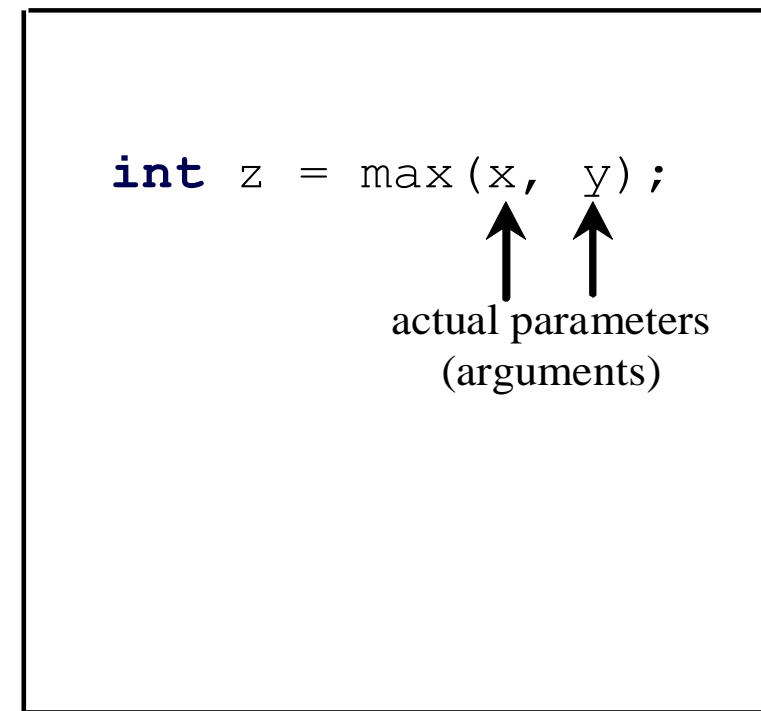
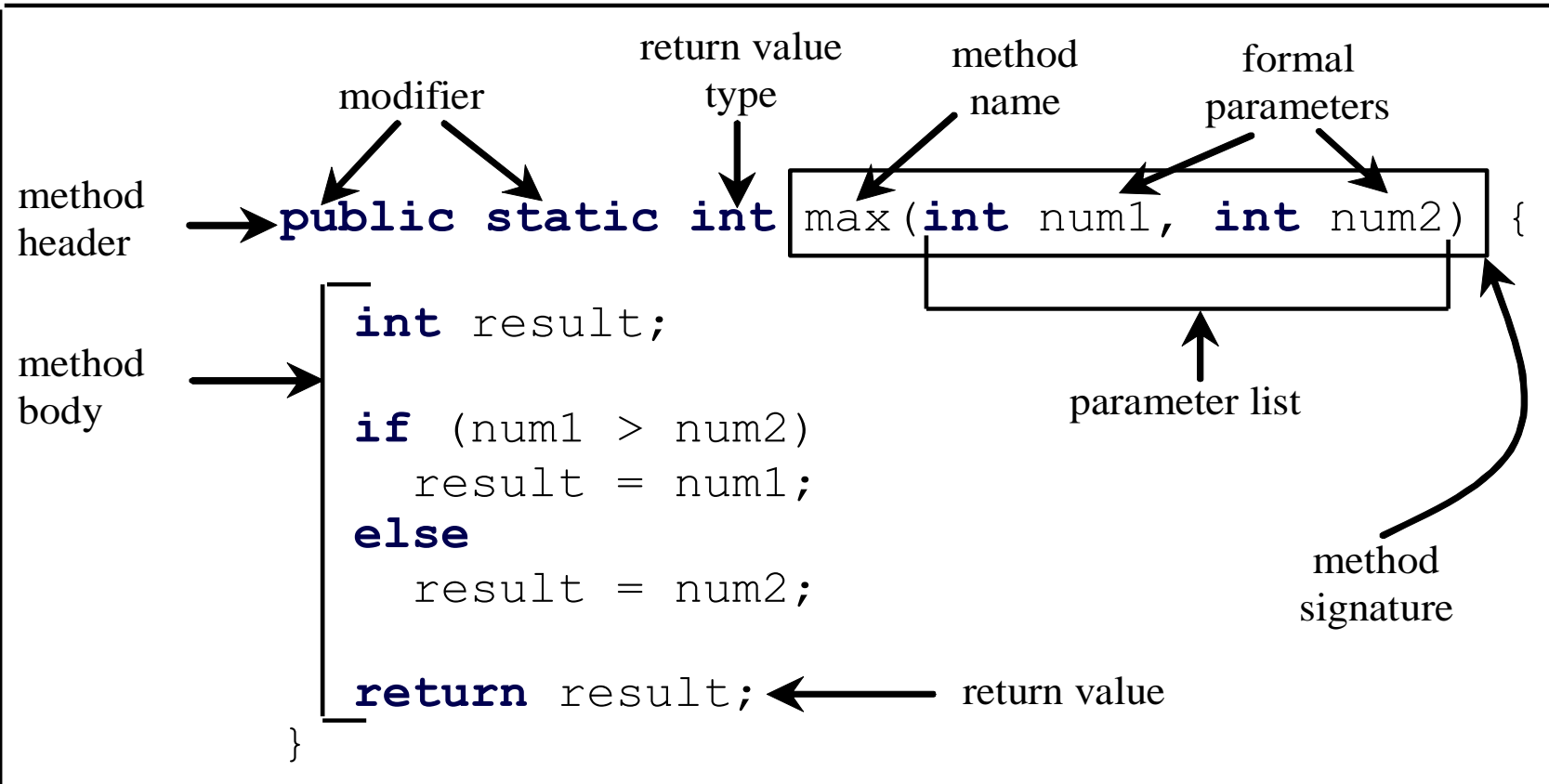
```
public static void main(String[] args) {  
    System.out.println("Sum from 1 to 10 is " + sum(1, 10));  
    System.out.println("Sum from 20 to 30 is " + sum(20, 37));  
    System.out.println("Sum from 35 to 45 is " + sum(35, 49));  
}
```

Defining Methods

A method is a collection of statements that are grouped together to perform an operation.

Define a method

Invoke a method

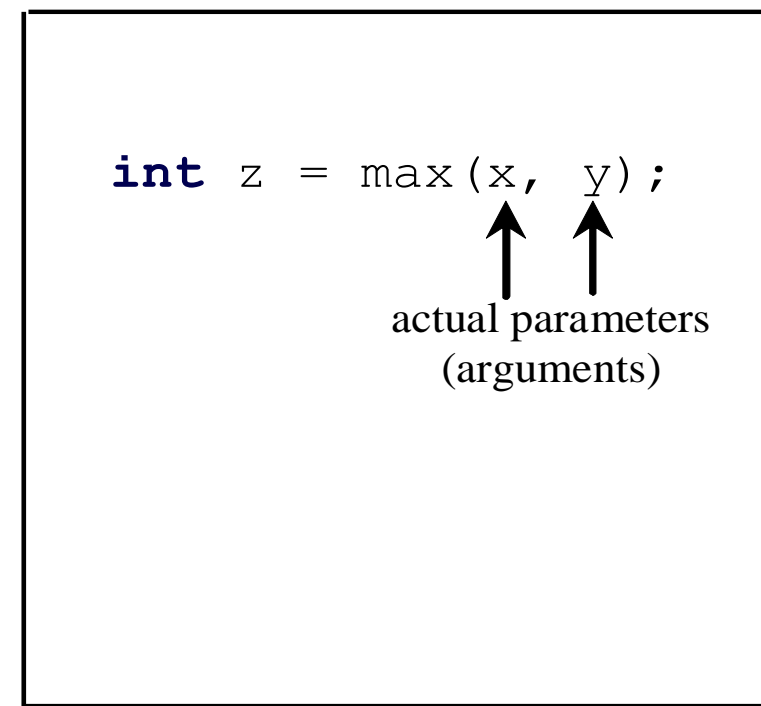
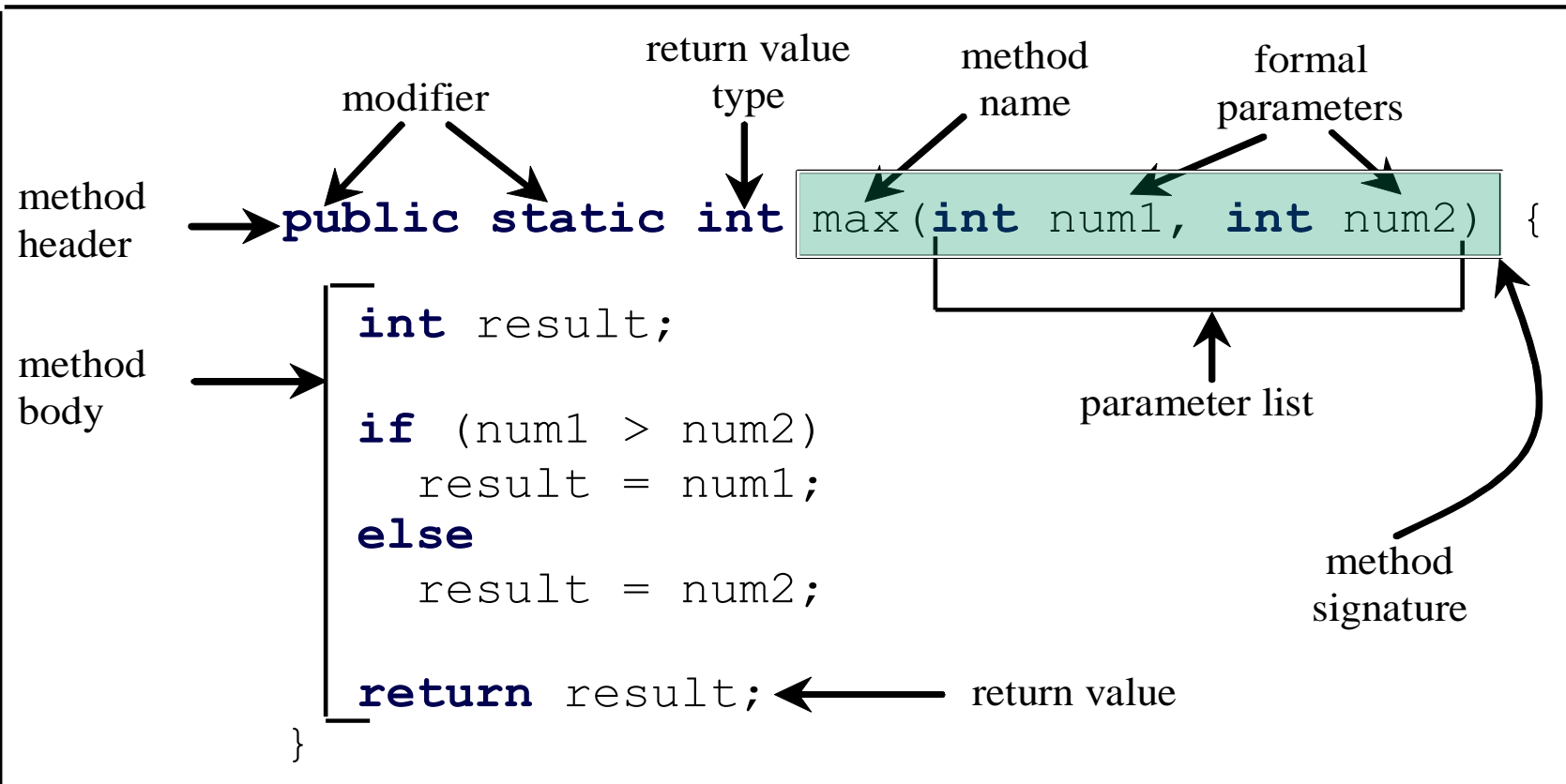


Method Signature

Method signature is the combination of the method name and the parameter list.

Define a method

Invoke a method

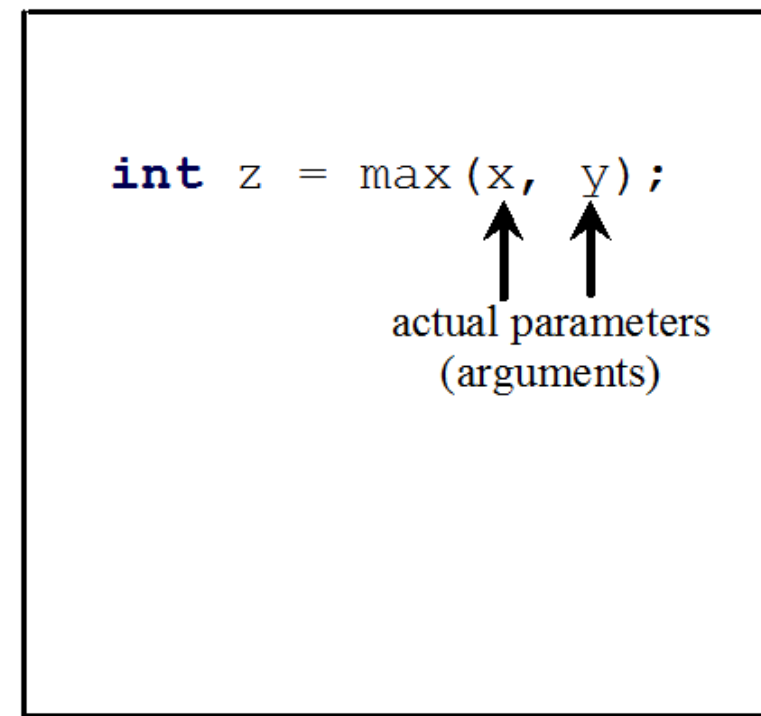
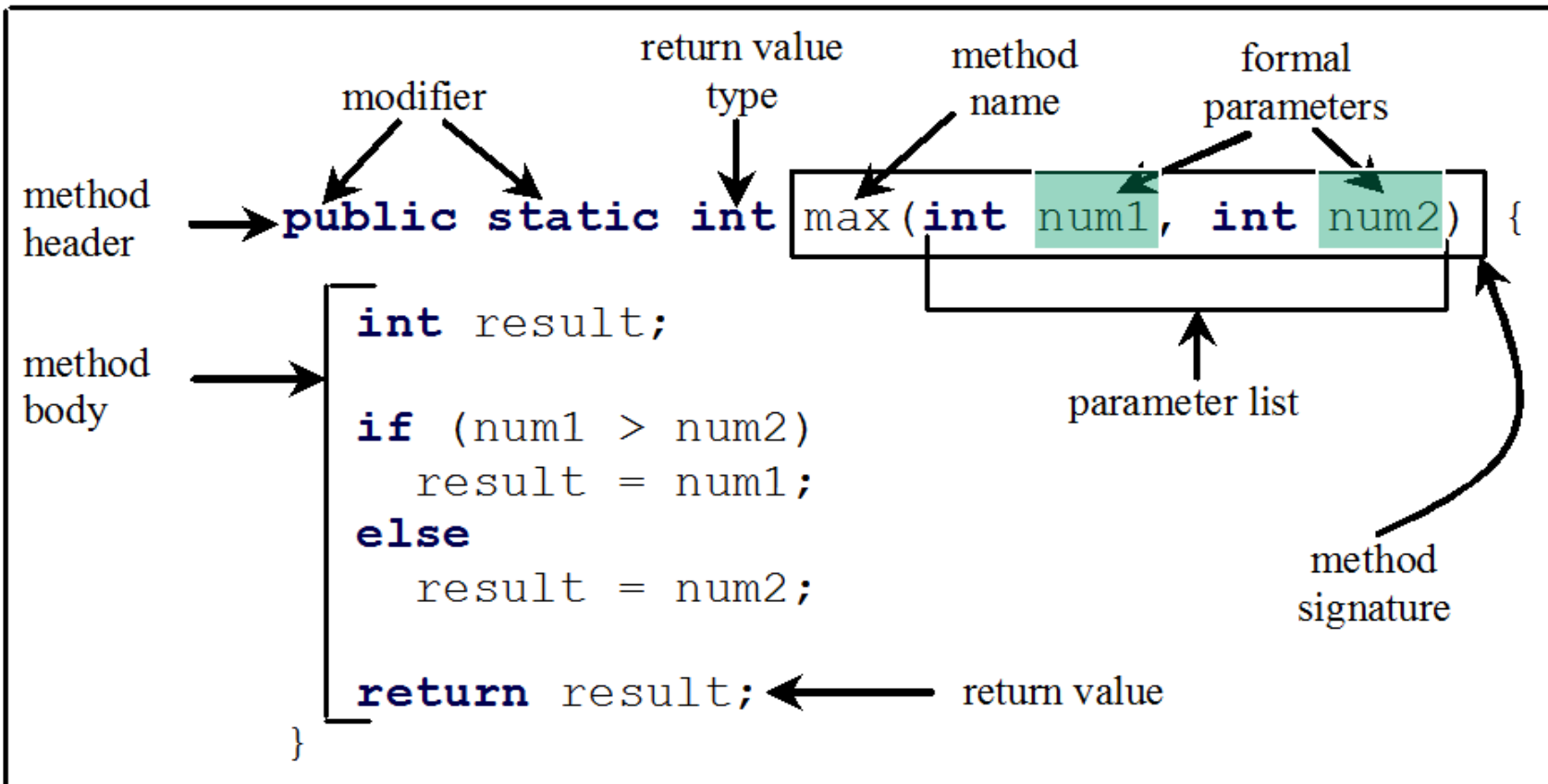


Formal Parameters

The variables defined in the method header are known as *formal parameters*.

Define a method

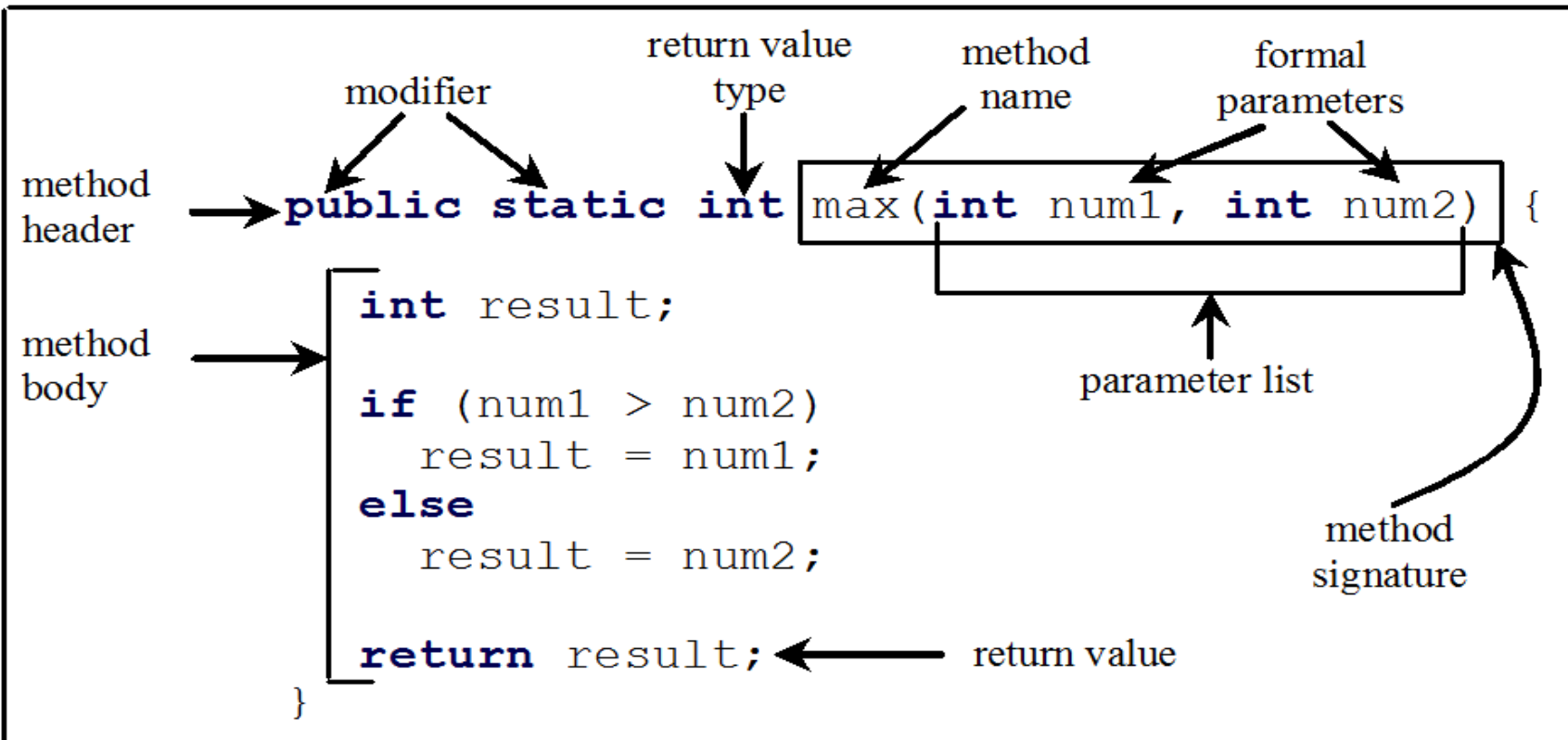
Invoke a method



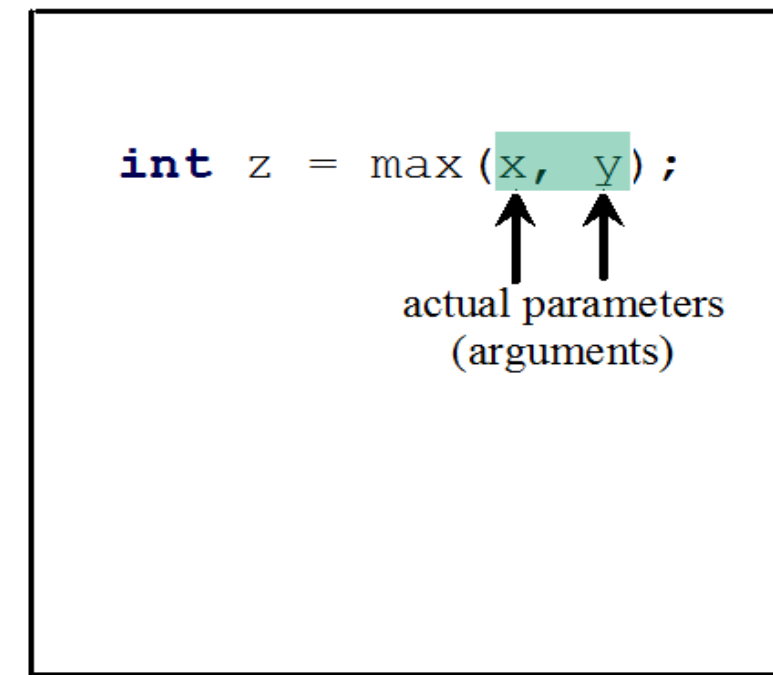
Actual Parameters

When a method is invoked, you pass a value to the parameter. This value is referred to as *actual parameter* or *argument*.

Define a method



Invoke a method

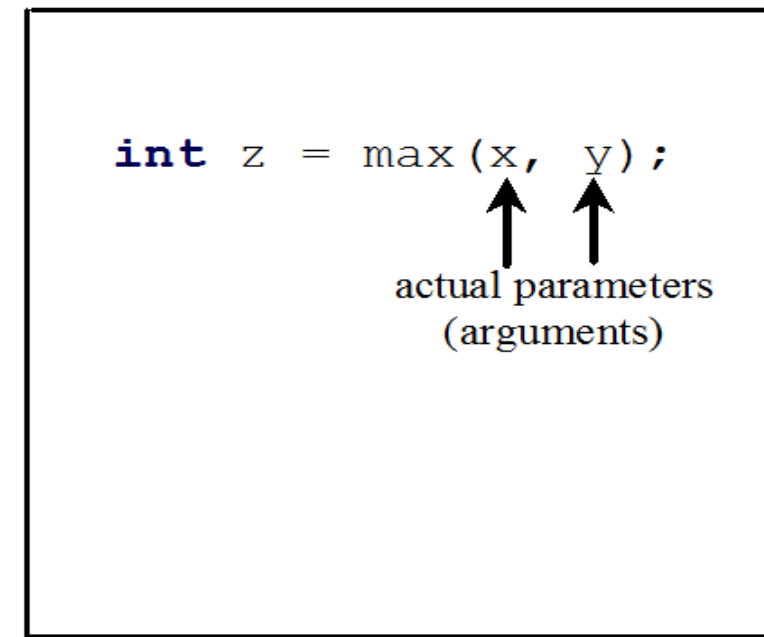
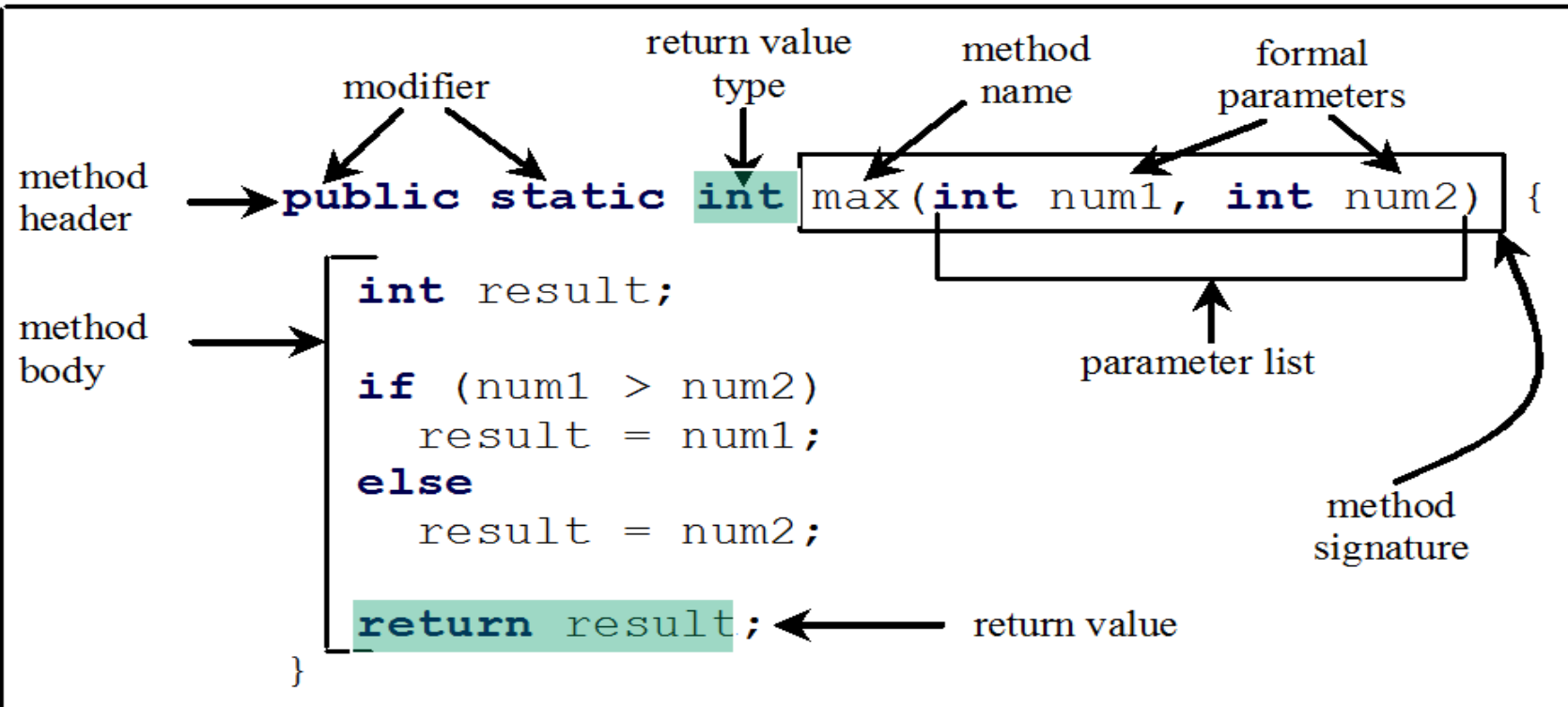


Return Value Type

A method may return a value. The returnValueType is the data type of the value the method returns. If the method does not return a value, the returnValueType is the keyword void. For example, the returnValueType in the main method is void.

Define a method

Invoke a method



Demo Program: StudentGPAMethod.java

Go BlueJ !!!