



Java for Beginners

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Levels of Java coding

- 1: Syntax, laws, variables, output
- 2: Input, calculations, String manipulation
- 3: Selection (IF-ELSE)
- 4: Iteration/Loops (FOR/WHILE)
- 5: Complex algorithms
- 6: Arrays
- 7: File management
- **8: Methods**
- 9: Objects and classes
- 10: Graphical user interface elements

Methods

Methods are smaller chunks of code that perform a specific function that you might want to repeat in future

Method rules:

- Starts with a lower case letter
- Ends with a set of brackets: ()
- Has to say what comes back

Types of methods

- Methods that return a value are called **return type** methods.
- You have to specify **what type of data is being returned**: int, String, char, etc.
- Methods that **don't return a value** are called **void** methods.
- Some people call void methods procedures and return type methods functions

Summary

Void
methods

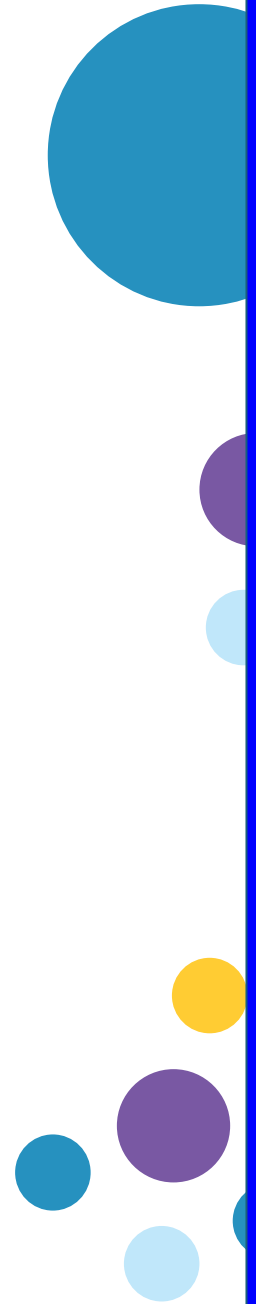
Don't
return a
value

Called
procedures

Return
methods

Returns a
specified
value

Called
functions

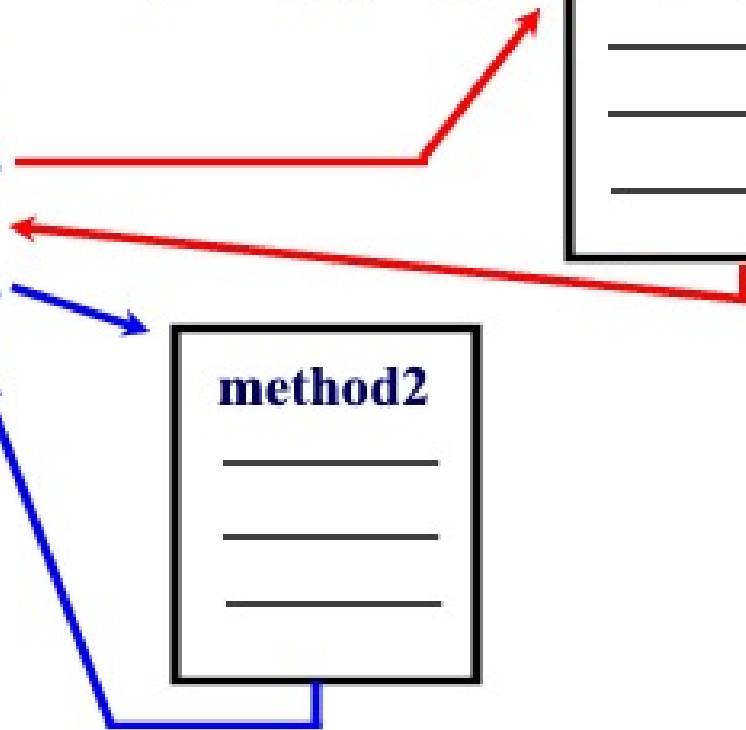


Methods are called from within the '*main* method'

```
public static void main (String[ ] args)
{
    statement;
    method1( );
    statement;
    method2( );
    statement;
}
```

method1

method2



```
public class Methods {
```

```
    public static void main(String[] args) {
```

```
        int num = 5;
```

```
        double pi = 3.14;
```

```
        System.out.println(num);
```

```
        System.out.println(pi);
```

```
    }
```

```
    public static void otherMethod() {
```

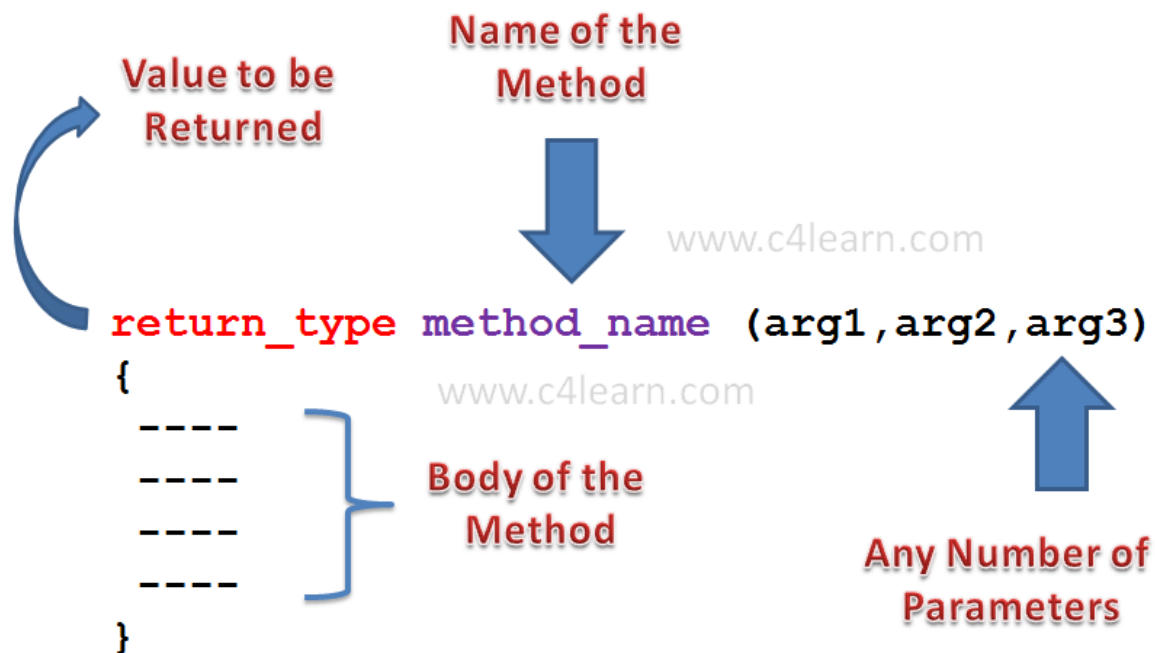
```
        double num2 = 6.28;
```

```
        System.out.println(num2);
```

```
    }
```

They are normally
written **below** the
main method
(but it really doesn't
matter)

```
}
```



return type **method name** **value passed to the method**

```
int total( int aNumber) {  
  
    int a_Value = aNumber + 10;  
  
    return a_Value;  
  
}
```


Void method examples

```
public static void printName()  
{  
    System.out.println("Chris");  
}
```

```
public static void printName(String s)  
{  
    System.out.println(s);  
}
```

Return method examples

```
public static int getNumber()  
{  
    int number = 23;  
    return 23;  
}
```

```
public static int getTriple(int i)  
{  
    int number = i * 3;  
    return number;  
}
```

Void methods can be called on their own line

```
public static void printName()  
{  
    System.out.println("Chris");  
}
```

```
public static void main (String args[])  
{  
    getName();  
}
```

Return methods should be called into a receiving container

```
public static int getTriple(int i)
{
    int number = i * 3;
    return number;
}
```

```
public static void main (String args[])
{
    int answer = getTriple(4);
    System.out.println(answer);
}
```

```
public static void main (String args[])
{
    System.out.println("Enter a number > 1/2/3");
    int answer = Integer.parseInt( kb.nextLine() );
    System.out.println( decider(answer) );
}
```

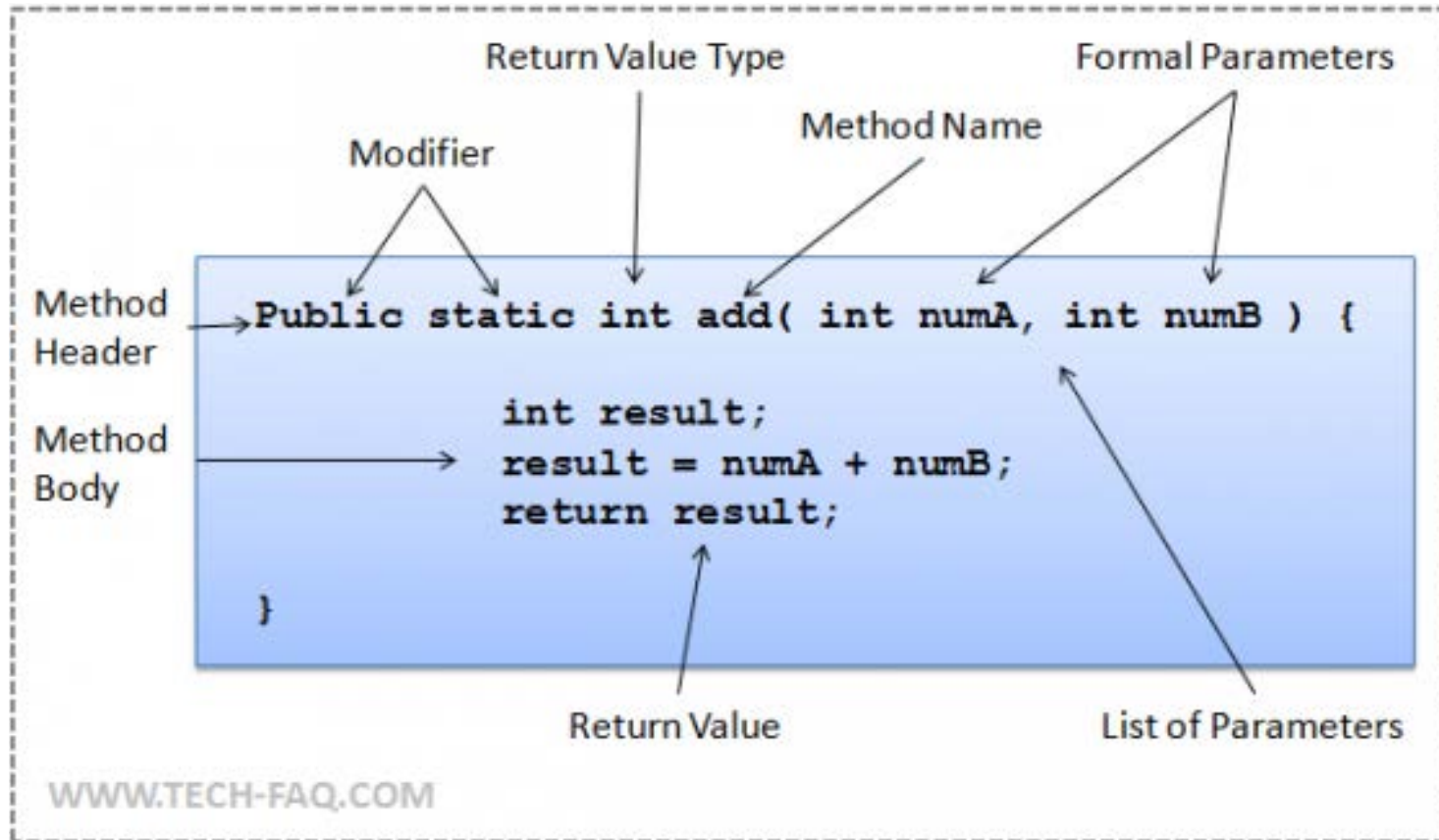
```
public static String decider (int i)
{
    if(i==1)
    {
        return "Chris";
    }
    else if (i==2)
    {
        return "Ingrid";
    }
    else
    {
        return "Milo";
    }
}
```

Common example

What does this
code segment
do?

How does it do it?

Method summary



Useful resource #1

The image is a screenshot of a web page titled "Beginning J A V A ... Methods" from MathBits.com. The page has a spiral notebook border on the left. The title "Beginning J A V A ..." is in a brown, slightly shadowed font, and "Methods" is in a large, blue, bubbly font. To the right of the title is a cartoon dog sitting next to a blue coffee cup with steam rising from it. Below the title, there is a navigation bar with links: "Java Main Page | MathBits.com | Terms of Use | Java Resource CD". Below this, a light blue box contains the word "Lessons:" followed by a bulleted list of four topics.

Beginning J A V A ...

Methods

MathBits.com

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Lessons:

- What is a Method?
- What is Actually Passed to a Method?
- Style 1: Methods: void parameters, void return
- Style 2: Methods: parameters, void return

<http://mathbits.com/MathBits/Java/Methods/methods.htm>