



# Program Entry Point

Effective Programming in Scala

# Program Entry Point

There is another important difference between a worksheet and a project made of several source files.

A worksheet is evaluated line by line, from top to bottom.

Whereas a program is evaluated by calling its “entry point”, which is a method located in an arbitrary source file.

## @main Methods

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The method annotated with @main can't be a method in a class, it must be either a “top-level” method, or a method in an object definition.

# Program Parameters

It is possible to define program parameters by adding parameters to the method annotated with @main:

```
@main def run(name: String): Unit = println(s"Hello, ${name}!")
```

In this example, you have to supply one argument to run the program:

```
> run World  
[info] Hello, World!
```

## Program Parameters (2)

Programs can take an arbitrary number of parameters. Basic types (String, Int, etc.) are supported out of the box, and you can add support for custom types.

If the caller of your program does not supply the required argument, or if they have an invalid type, the program execution is aborted:

```
> run
```

```
Illegal command line: more arguments expected
```

# Top-Level Statements

Although this is allowed in Scala worksheets, in Scala projects source files can't contain top-level statements.

For example, writing the following in a `.scala` file

```
println("Hello, world!")
```

produces an error:

```
Expected a toplevel definition
```

Valid top-level definitions are `def`, `val`, `var`, `object`, `trait`, and `class` definitions.

# Summary

Unlike worksheets that are evaluated from top to bottom, Scala projects have a program entry point.

A program entry point is a method definition annotated with `@main`.

Program entry points can take parameters.

Project source files can't contain top-level statements (only top-level definitions).