

Filename requirement

execute java classname

spec is available

main returns 0
system.exit() for
non zero returns

3.1 Basic structure / main method

Filename must be the same as the name of the class, with `.java` appended.

When you run program you only specify the name of the class:

e.g. `'java HelloWorld'` \Rightarrow multiple main methods OK

The 'main' method must be declared public.

Official language spec: <http://docs.oracle.com/javase/specs>

The main method always returns 0 when exiting normally.
Use `System.exit()` to return a different value.

3.2 Comments

// line comment

Comments

/* block comment */ \Leftarrow do not nest

/**
 * Javadoc comment
 */

3.3 Data types

primitive type
breakdown

8 primitive types {
4 integers
2 floating points
1 character type
1 boolean

3.3.1 Integer types \swarrow sizes are defined by the spec, not the target architecture

integer types
ranges

Type	Storage Req.	Range (inclusive)
int	4 bytes	-2,147,483,648 to 2,147,483,647
short	2 bytes	-32,768 to 32,767
long	8 bytes	-9,223,372,036,854,775,808 to 9,223,372,036,854,775,807
byte	1 byte	-128 to 127 \Leftarrow Signed!!!

Summary: basic structure + comments + primitives

Questions: How can we work with unsigned bytes?

What happens if an integer overflows / underflows? Is it silent or does it throw an error?
Same question for floats / doubles.

Does javac tool come w/ JDK or does it need to be installed separately?

exercises: Intentionally cause overflow / underflow. What happens? \rightarrow next page