# Formale Entwicklung objektorientierter Software

## Praktikum im Wintersemester 2008/2009

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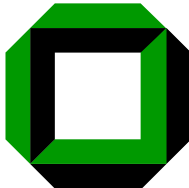

# More on JML

# Design by Contract

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  - higher degree of precision
  - *automation* of program analysis of various kinds (runtime assertion checking, static verification)
- Errors in specifications are at least as common as errors in code, but their discovery gives deep insights in (mis)conceptions of the system

# JML Annotations

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  @   requires pin == correctPin;
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⇒ The blue ‘@’s are not required, but it’s a *convention* to use them.

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- JML specifications may themselves contain comments

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/*@ requires r;
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keyword '**also**' separates the contracts of a method

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- default: **`instance`** within classes, **`static`** within interfaces

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**assignable** clauses are always evaluated in the pre-state!

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**non_null** is the default!
If something may be null, you have to declare it **nullable** explicitly.

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The tools do not yet support the new features of Java 5!
e.g.: no generics, no enums, no enhanced for-loops, no autoboxing

**THE**

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**END**