

Assertions – New Feature of Java 1.4

Long-time feature of C/C++

2/6/2003

 Idea: at any point in the code where some condition should hold, we can write this type of statement:

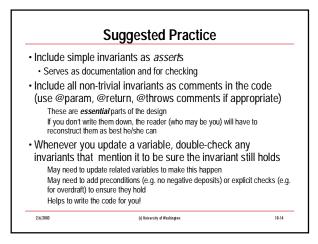
assert <boolean expression>;

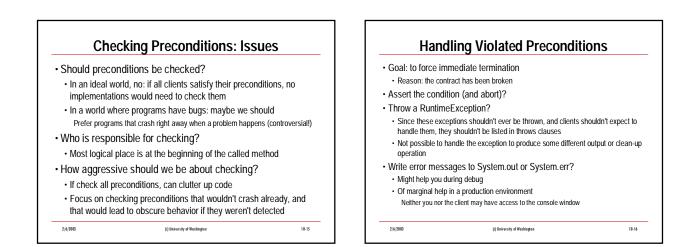
• If < boolean expression> is true, execution continues normally

• If false, execution stops with an error, or drops into a debugger,

- Asserts can be disabled without removing them from the source code
 Means there is no performance penalty for production code
- Guideline: use aggressively for consistency checking
 Powerful development tool; helps code to crash early
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 Use to check all types of invariants, not just preconditions
- Unfortunately, not all invariants can be expressed by simple Boolean conditions.

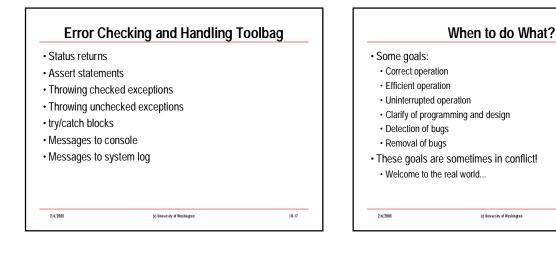
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Martin's Stratagem	
1.	Draw a box around the code you are responsible for debugging
2.	Inside the box, be aggressively aggressive
1.	Lavioli use of assert
2.	Frequent invariant checking, even if redundant
3.	Explicit subexpressions, single-assignment variables (helpful when using Debugger)
4.	Console messages
3.	Outside the box, be conservative
1.	Raise exceptions
2.	Write to system logs
3.	Comments and documentation
4.	Fail-safe recovery

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