



Problem Determination & Debugging

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Where do bugs come from ?

To err is human

- We write bugs bugs even with our best intentions

We write positive programming

- Assume it always succeeds

My code will always run perfectly

- Infinite disk, memory, CPU

Coding practices to minimize bugs



Don't assume, check for valid variables, data, size



Identify exit points in code

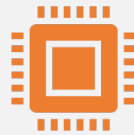


Is your code ready for concurrency & multi-threading



Code & Data versioning

System & Application Debugging



Java VM Memory & Threading
Utilization



System Tracing Logging



System & Application Memory
Dumps

Application Development & IDE's

IDE's: Eclipse, JetBrains, Visual Studio Code,

Lint checkers

Console logs

Unit tests

Source Code debugging

Build & Library Management

Application Source Code Debugging



Line Break Points, Step Over and Into



Conditional Break Points



Exception Break Points



Stopping for a particular thread



Inspect and Watch