Programs fail from unexpected inputs
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- Exceptional cases are hard to expect and hard to handle correctly
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- Crashes
  - Uncaught exceptions in Java
Programs fail from unexpected inputs

• Exceptional cases are hard to expect and hard to handle correctly

• Crashes
  • Uncaught exceptions in Java

• Security vulnerabilities
  • Memory errors in C/C++
Filtered iterators
Filtered iterators

Program 1
Filtered iterators

Runtime error

Runtime error
Filtered iterators

Program
1 ?#>&?**? 1

Runtime error

Program
1

Runtime error

Roll back to clean and consistent state
Filtered iterators

Runtime error

Roll back to clean and consistent state

Discard bad input unit
Filtered iterators

Runtime error

Roll back to clean and consistent state
Discard bad input unit
Continue with remaining input
Filtered iterators

Runtime error

Roll back to clean and consistent state

Discard bad input unit

Continue with remaining input
Fewer bugs and simpler programs
Fewer bugs and simpler programs

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<tr>
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Fewer bugs and simpler programs

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![Cyclomatic complexity chart](chart.png)