SATE VI

Preliminary Results

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SATE VI

- Bugs injected in real software
- Traces representing each injected bug
- Comparison of tool warnings to our traces

Ratings

Match	Source and sink found
Alternate	Sink found, different source found
Partial	Source, sink or intermediate weakness location found
Hint	Source and sink not found, but warning could lead a developer to find the bug
Miss	Not found

Metrics

- Recall - What proportion of bugs can a tool find?
- Applicable Discrimination - Among found bugs, how many are not reported in the fixed version?
- Overlap - How many tools found the same bug?

C Test Cases


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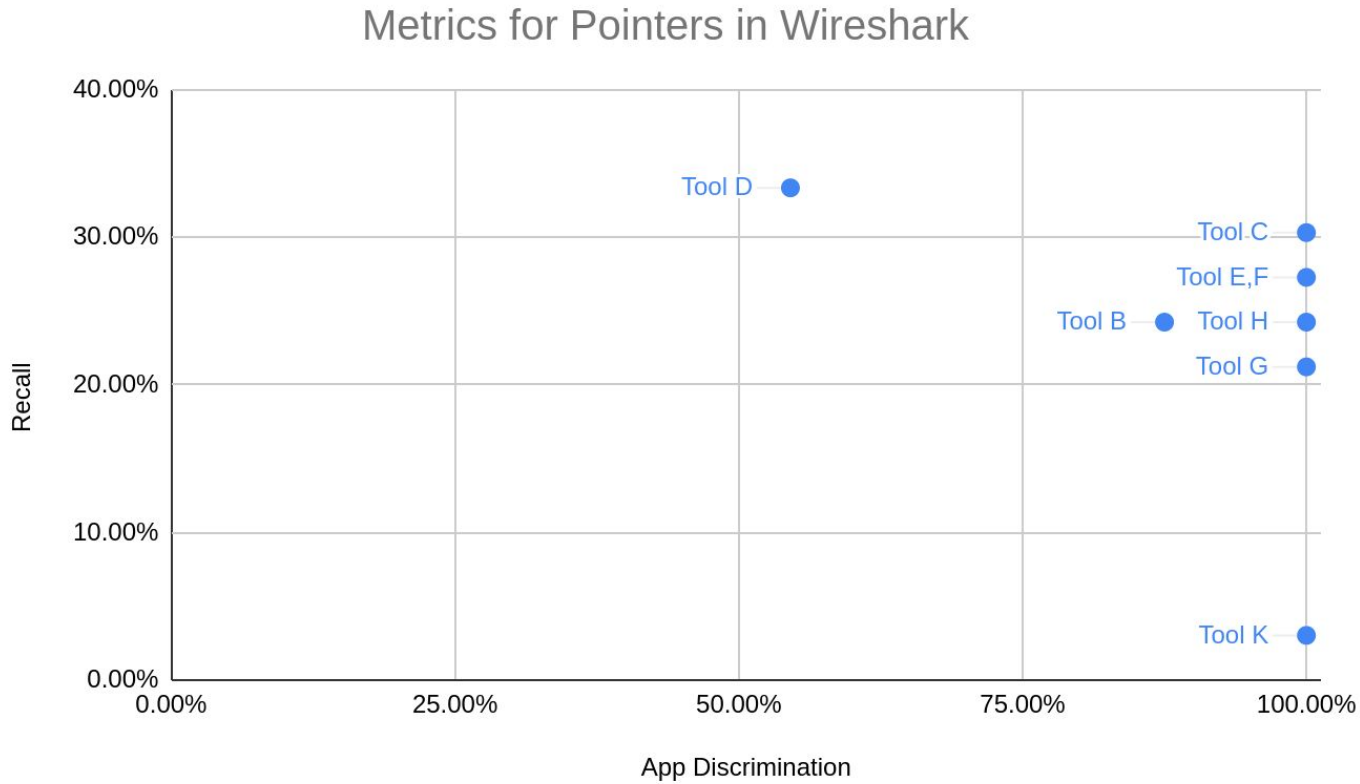
Wireshark-1.2

- Date of release: 2009
- Lines of code: 2 M
- Manually injected bugs
- Bugs: 75, including:
  - 44 Buffer Errors
  - 33 Pointer Errors
  - 12 Calculation and Numeric Errors
  - 11 Initialization Errors



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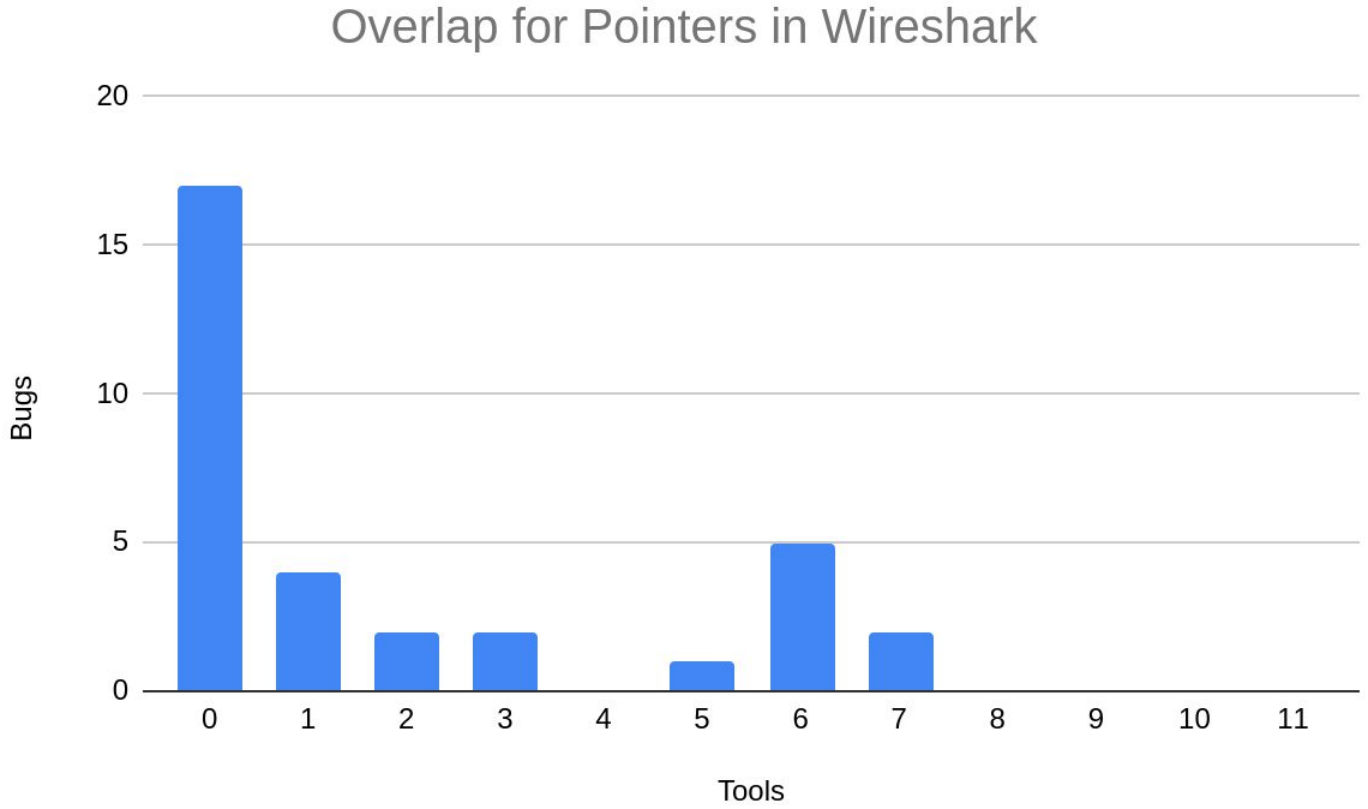

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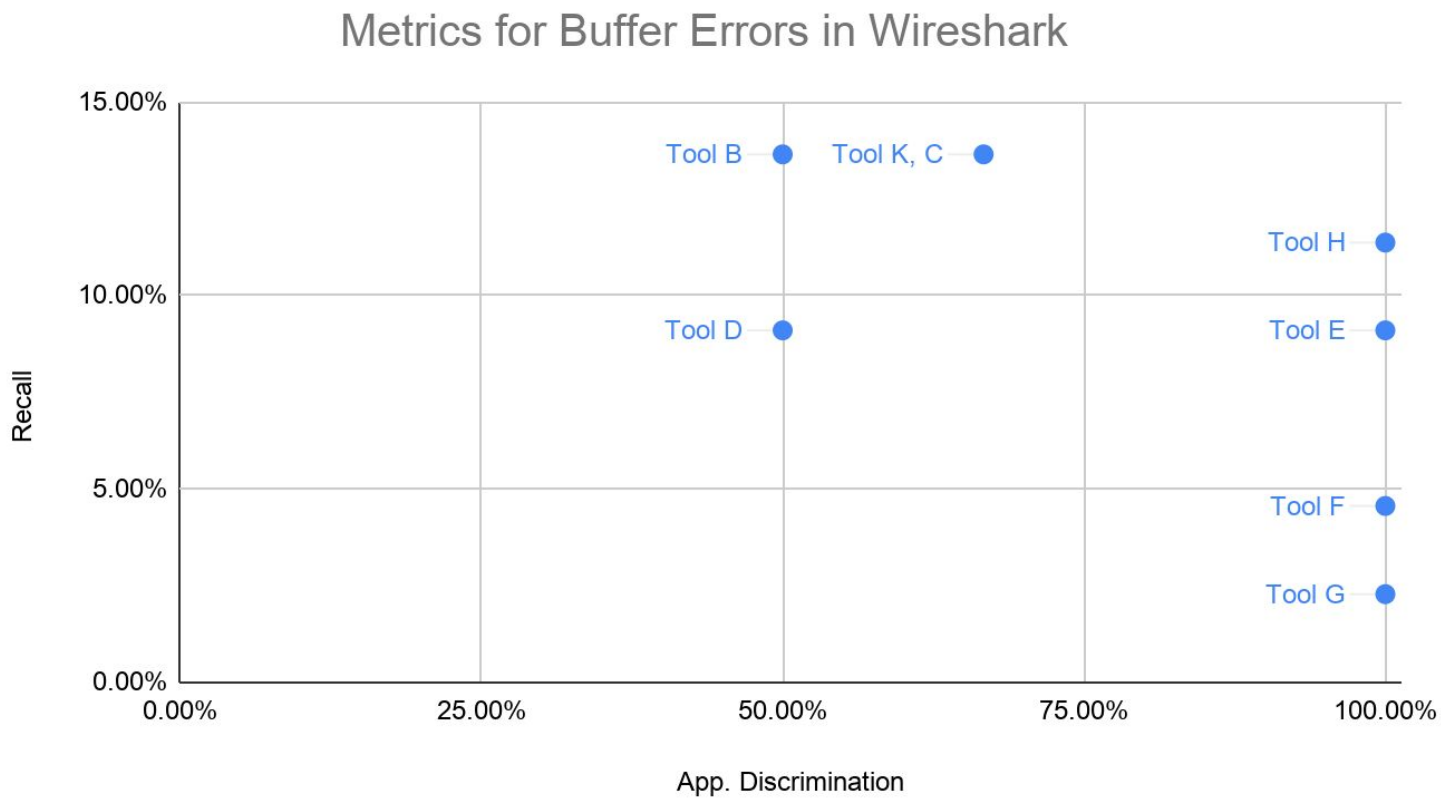

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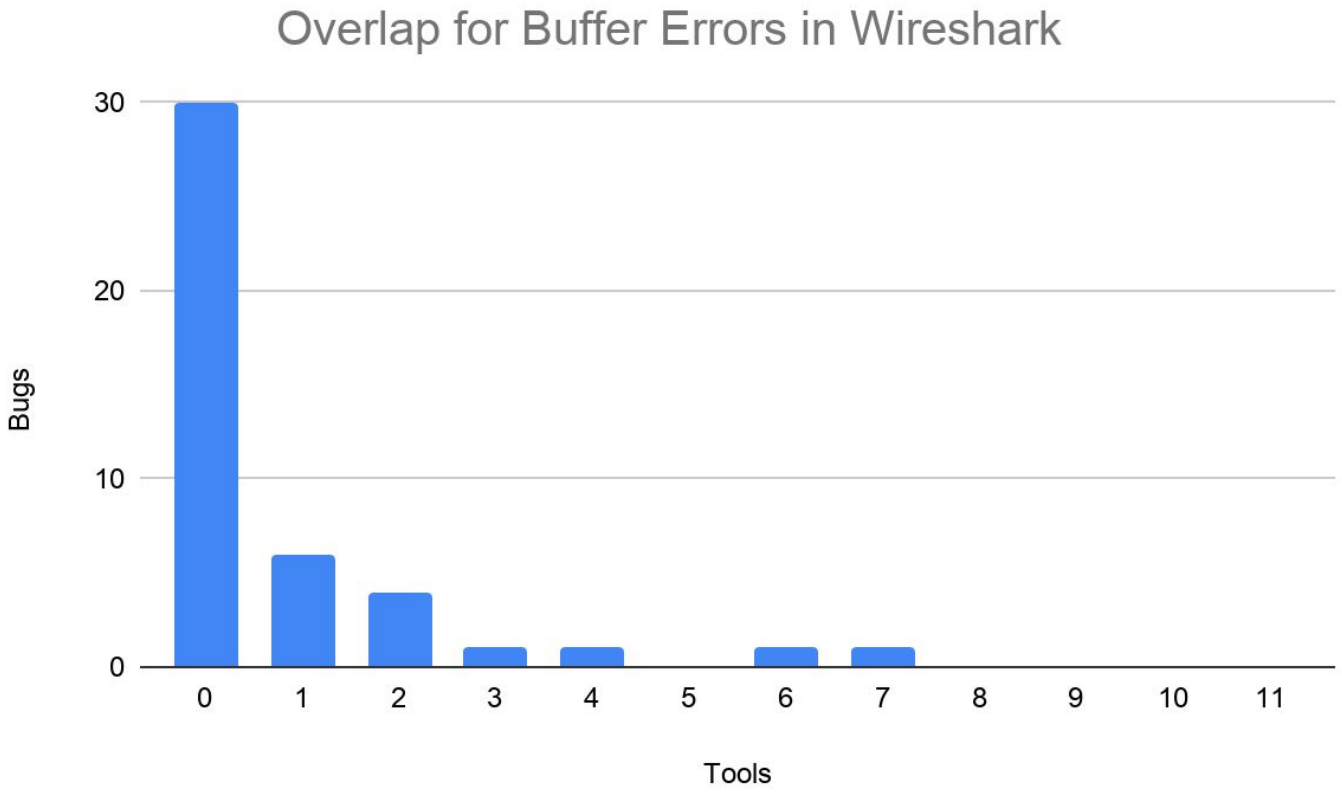

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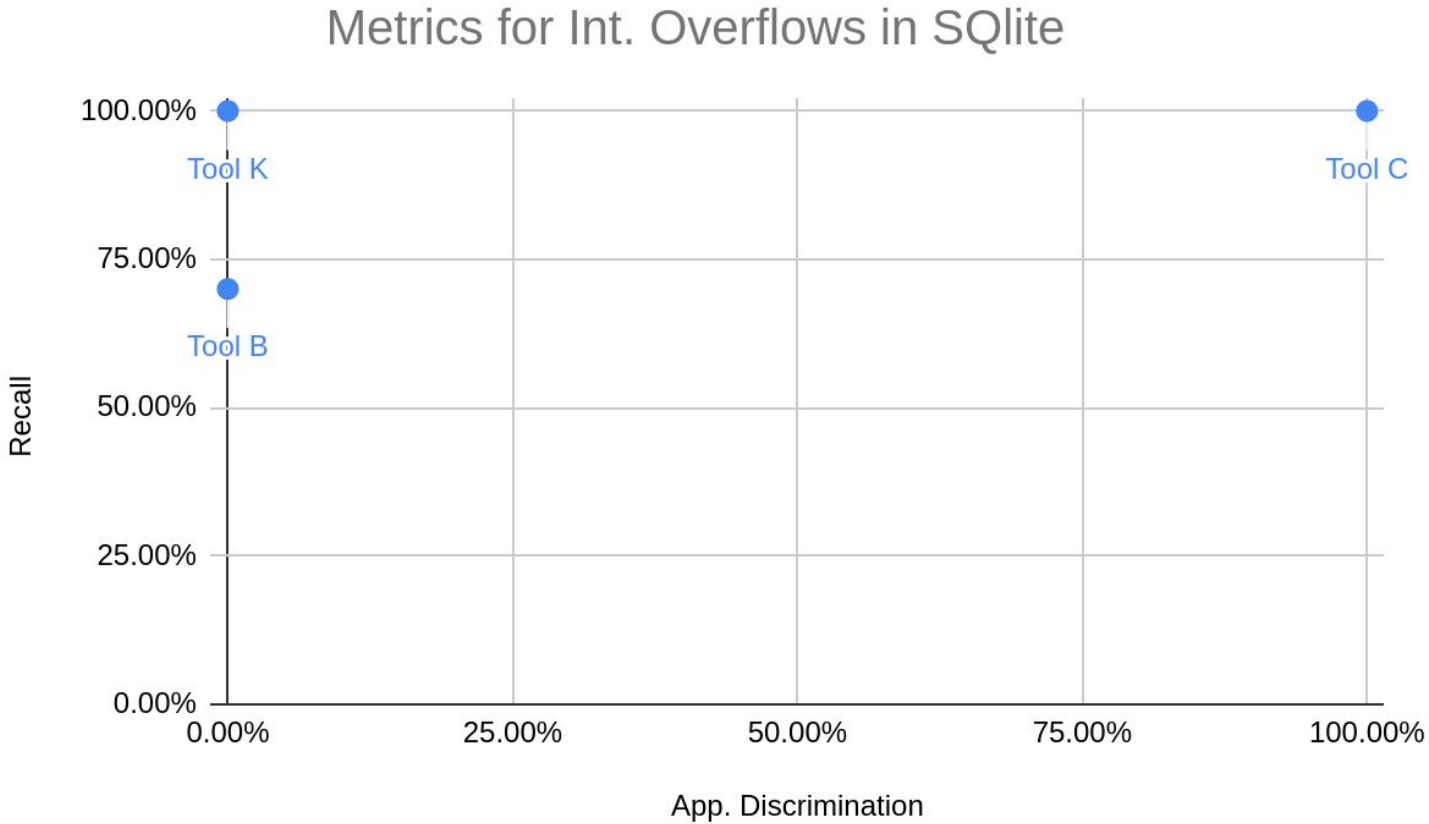
SQlite-3.21

- Date of release: 2017
- Lines of code: 350 k
- Automatically injected bugs
- Bugs :
  - 20 Buffer Errors
  - 10 Integer Overflows



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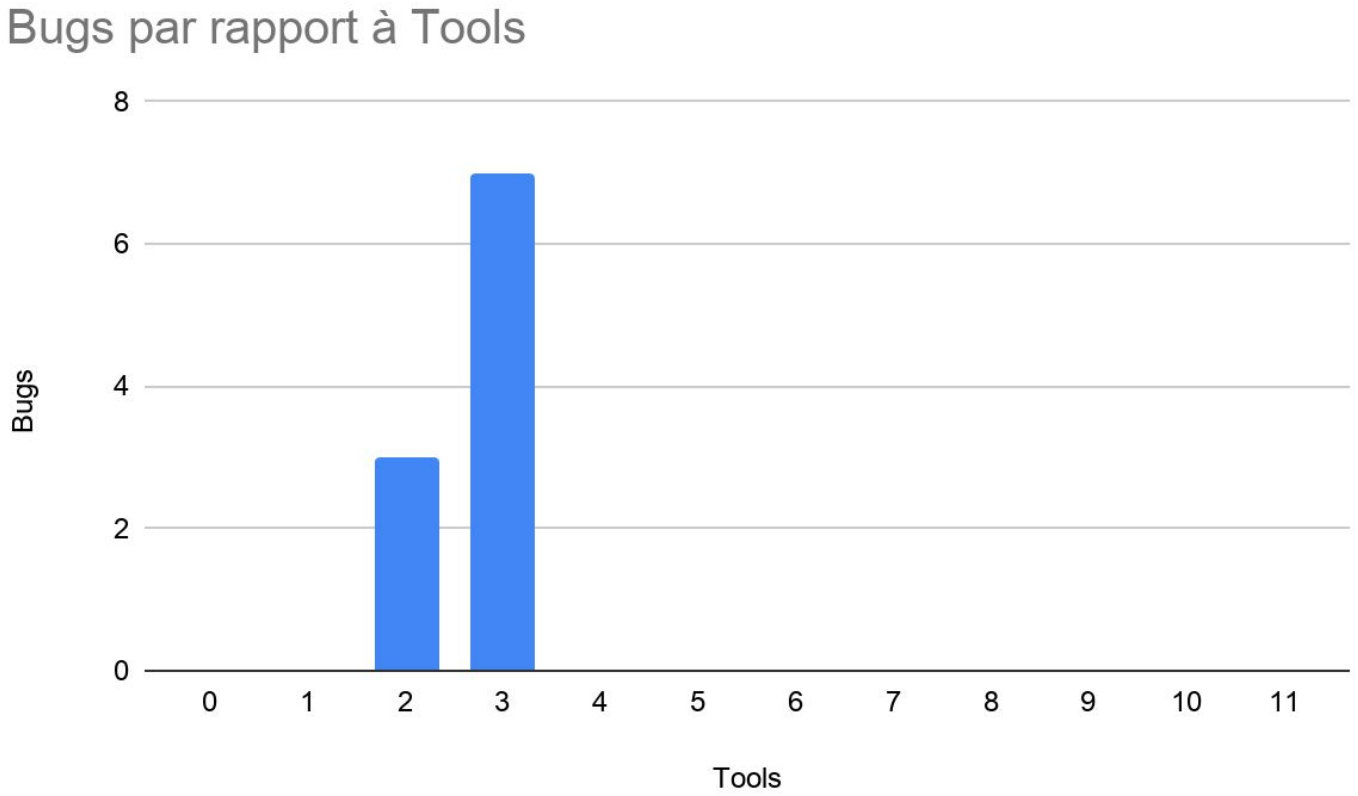

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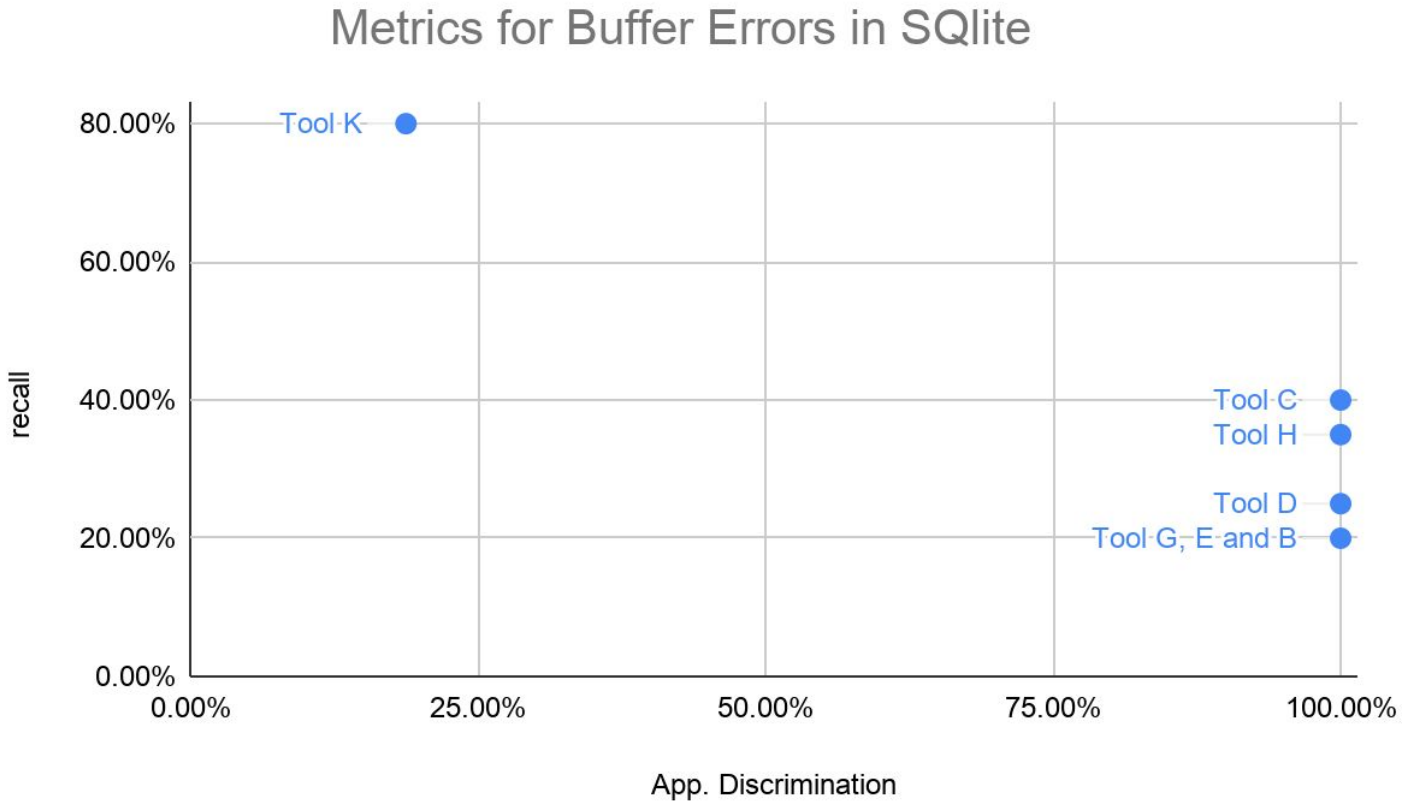

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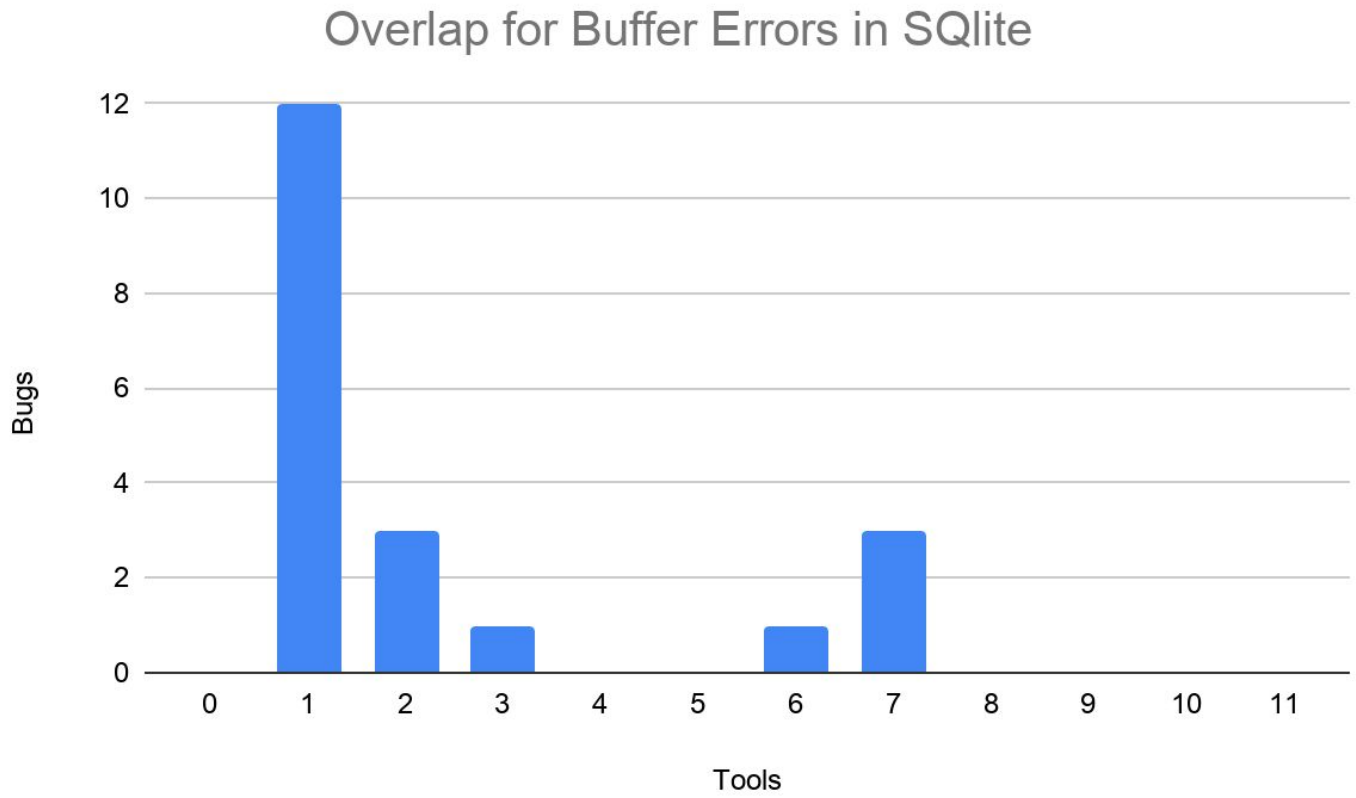

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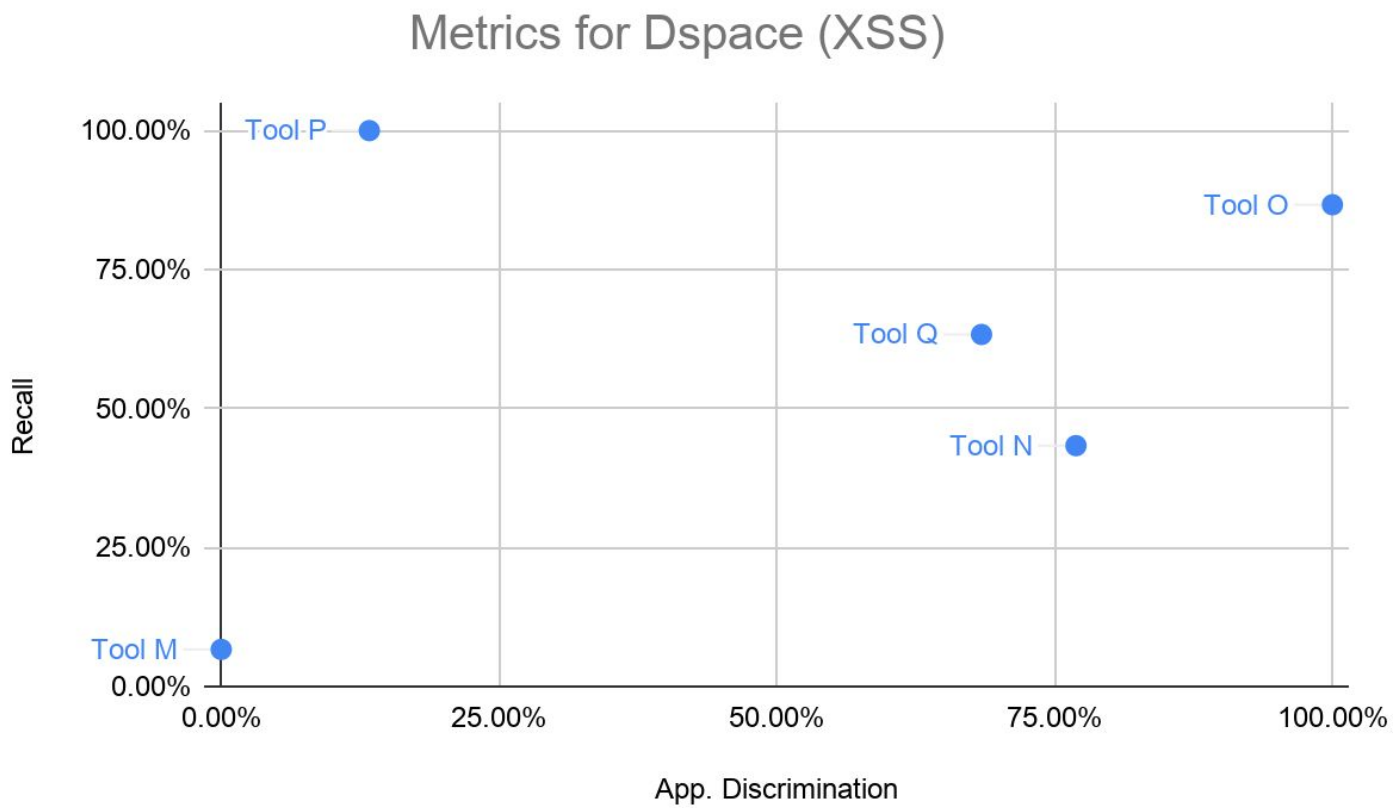
Java Test Cases

Dspace-6.2

- Date of release: 2017
- Lines of code: 234 k
- Manually injected weaknesses
- Bugs: 30 Cross Site Scripting



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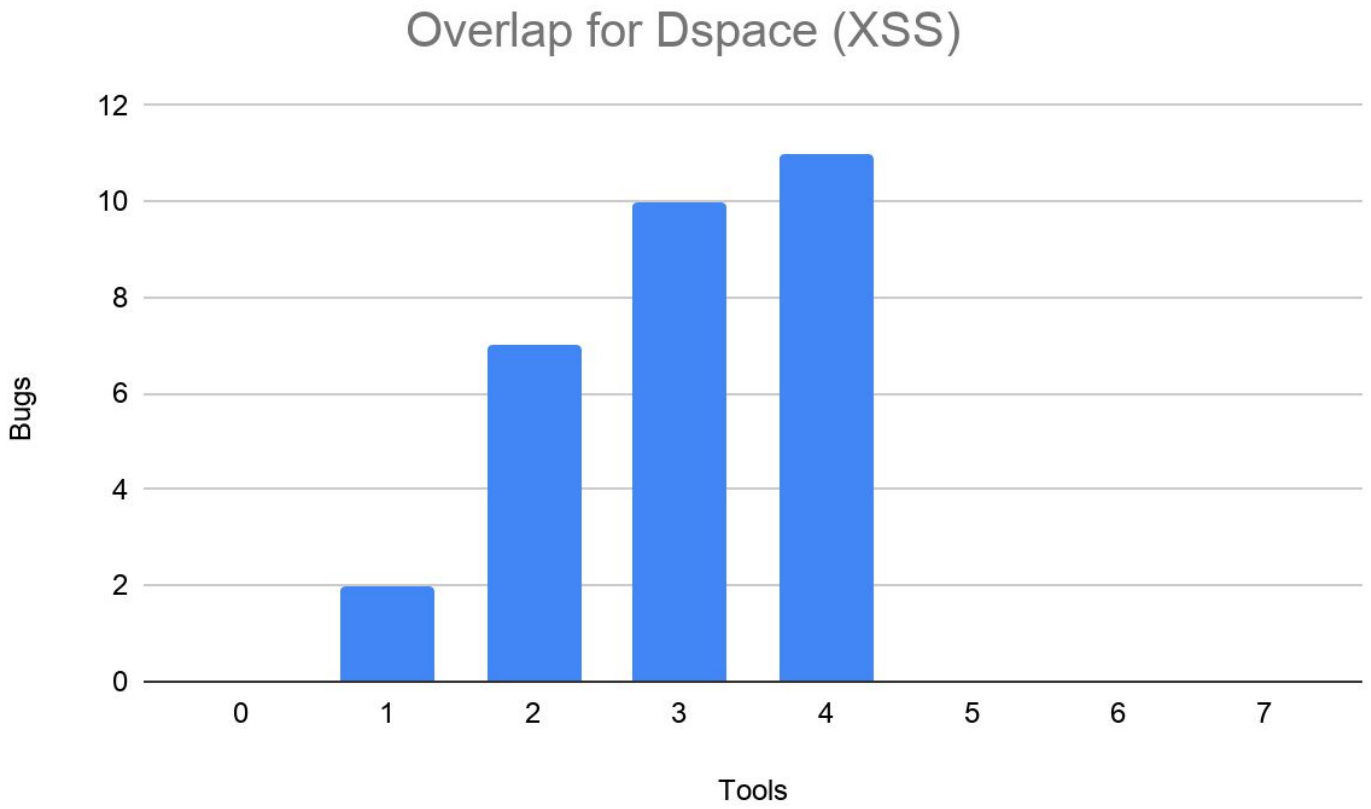

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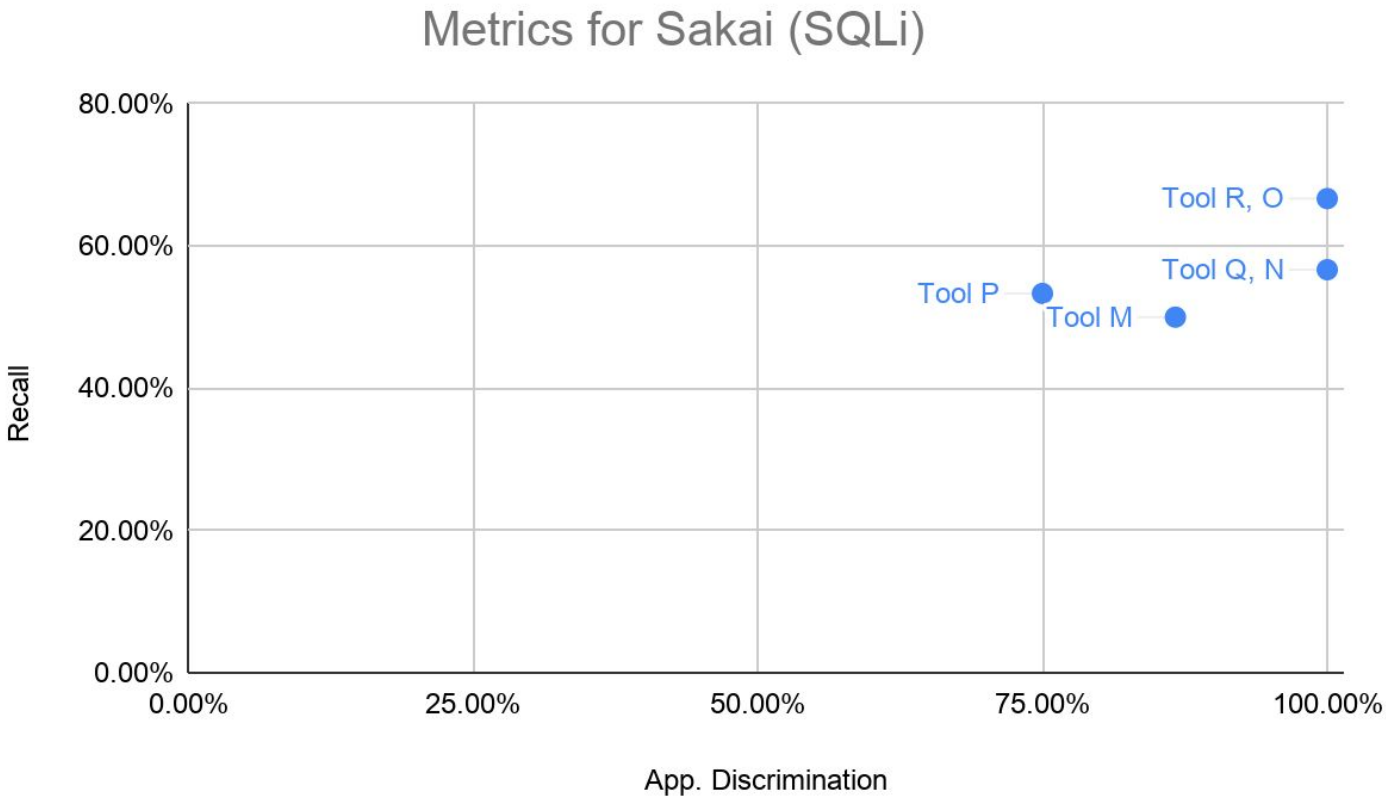
Sakai-11.2

- Date of release: 2016
- Lines of code: 810 k
- Manually injected weaknesses
- Bugs: 30 SQL Injections



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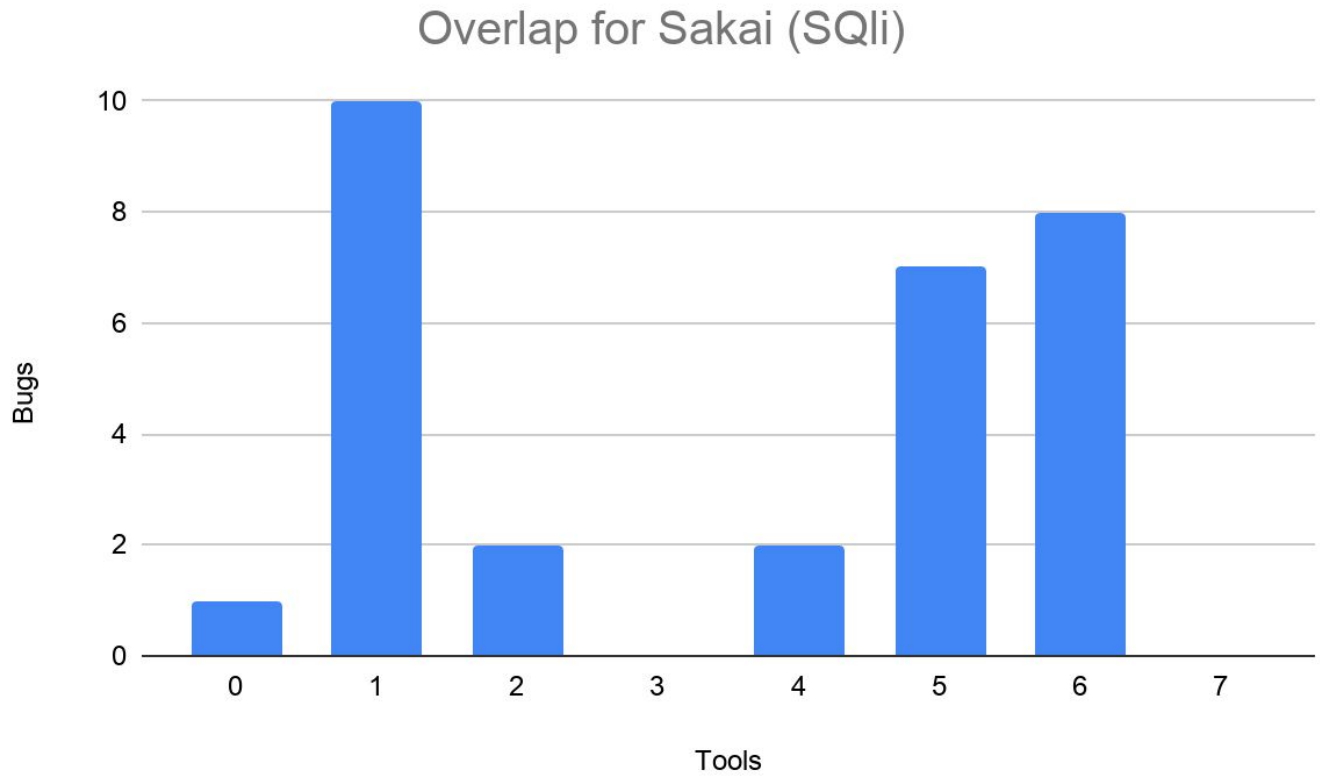

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Any Questions?