Secure Software Development – SSD

Tutorial 1

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Winter 2021/22, www.iaik.tugraz.at/ssd

Agenda

- Tools
- Q & A

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Questions?

Sanitizers

- Thread Sanitizer `-fsanitize=threads`
- Demo
- How to fix?
  - locking / lock-free algorithms

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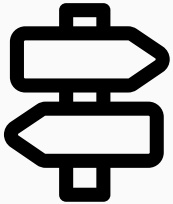
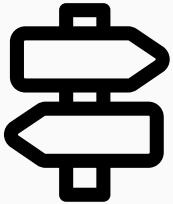


- Address Sanitizer `-fsanitize=address`
- Demo
- How to fix?
  - check for out-of-bounds accesses
  - buffer sizes
  - use-after-free



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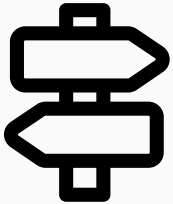

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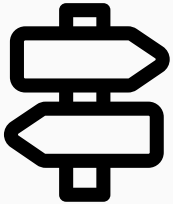

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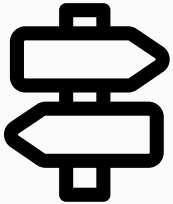

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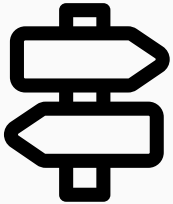

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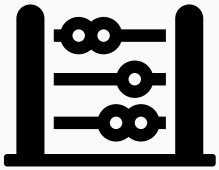

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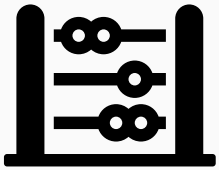

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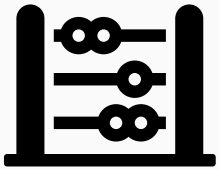

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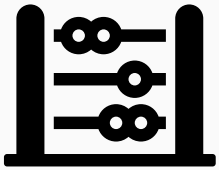

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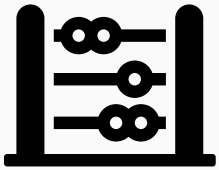

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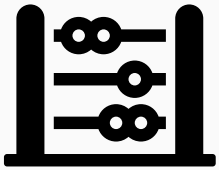

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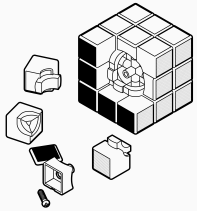
Assembly Tools



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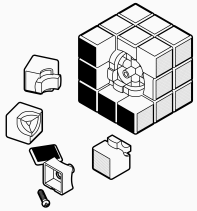
- Ghidra
- Cutter



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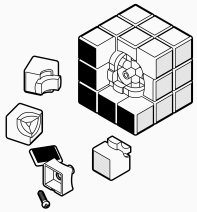

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