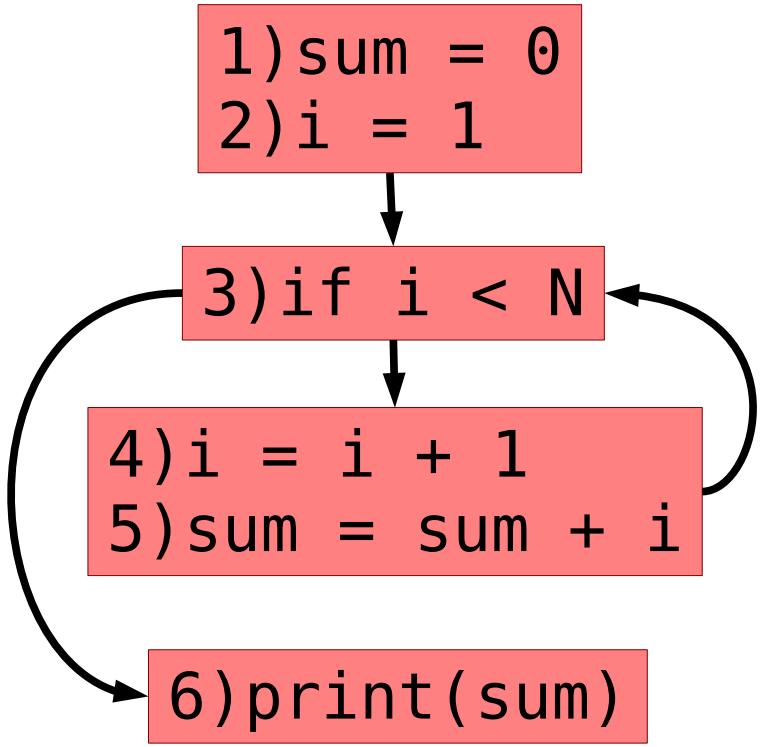
Slicing

Remember the Pain of Dependencies



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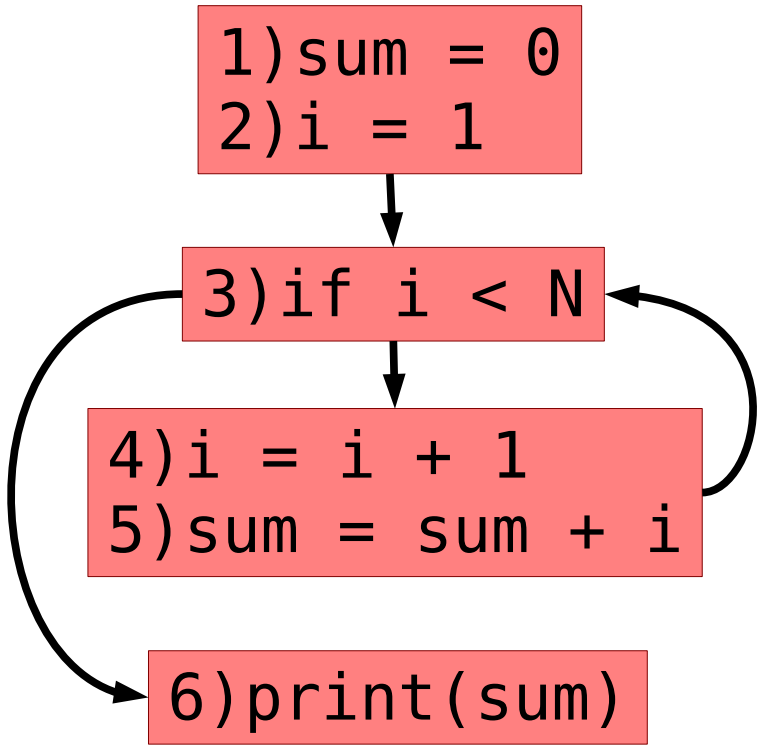

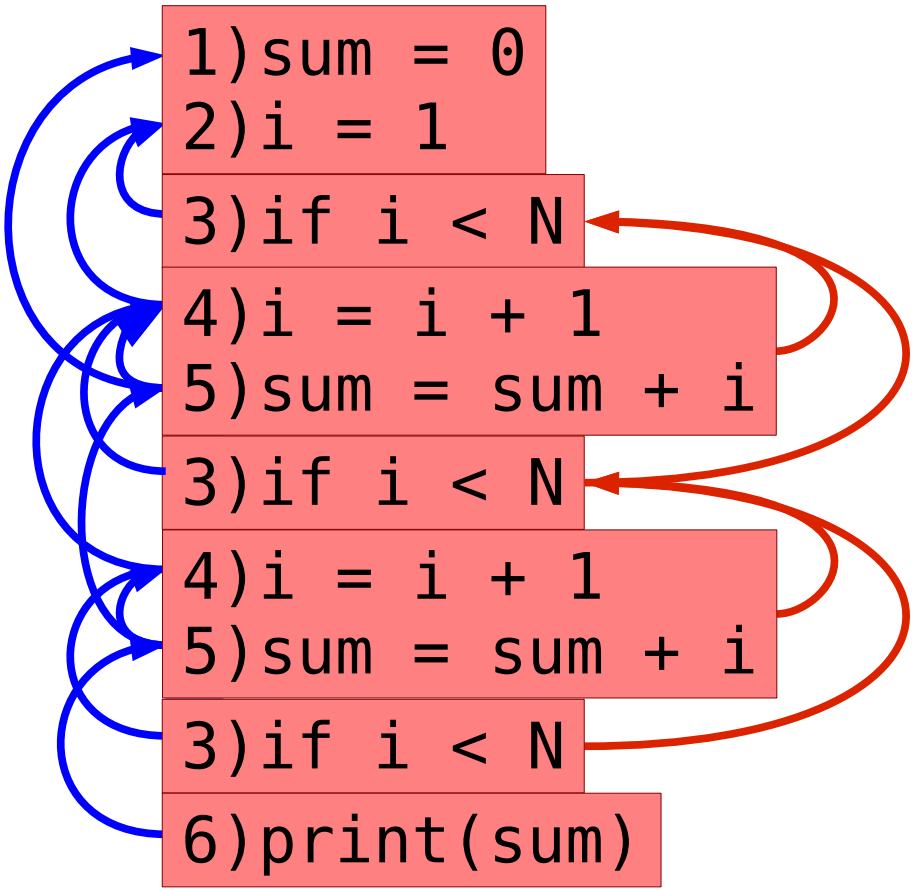

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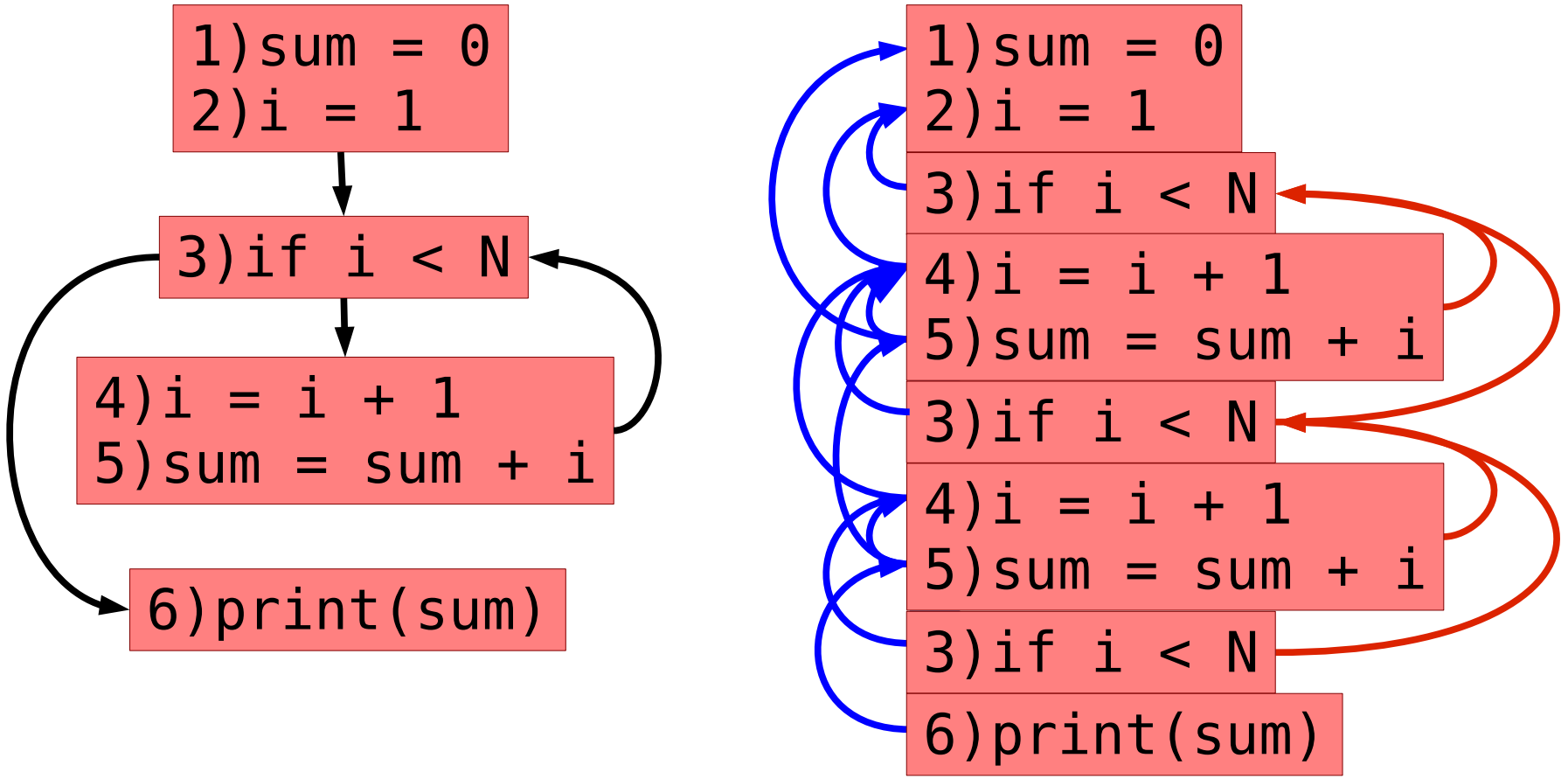

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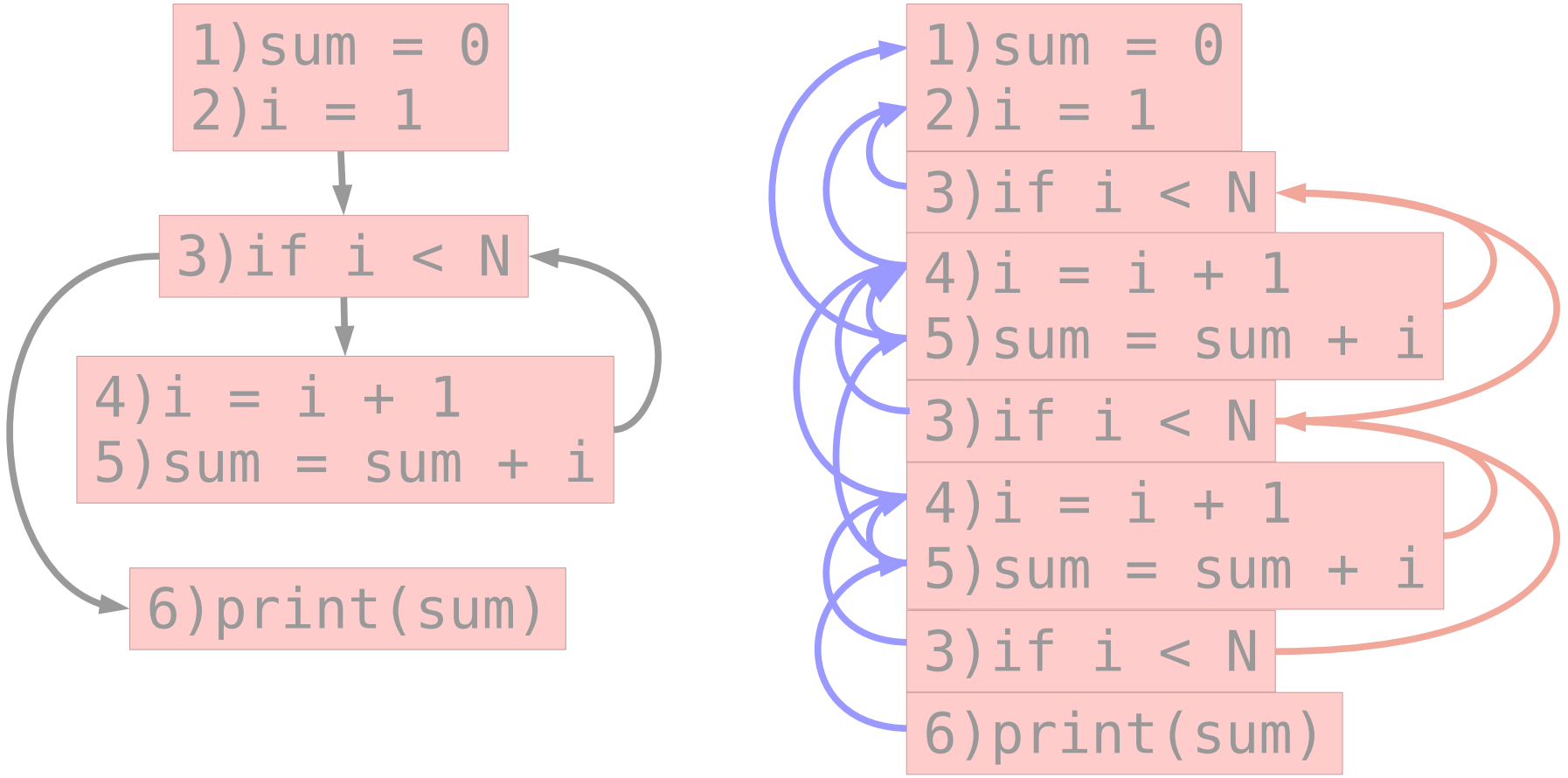

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Slicing is a technique for identifying interesting parts of a program/execution

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How does this relate to our representations?

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  - The statements that may influence v…
    - Data dependence
    - Control dependence
    - Compute using the PDG!

Program Slicing Uses

- Debugging
- Testing
- Reverse Engineering
- Optimization
- Design Profiling
- Malware analysis
- …

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  - Start from v and just follow edges backward

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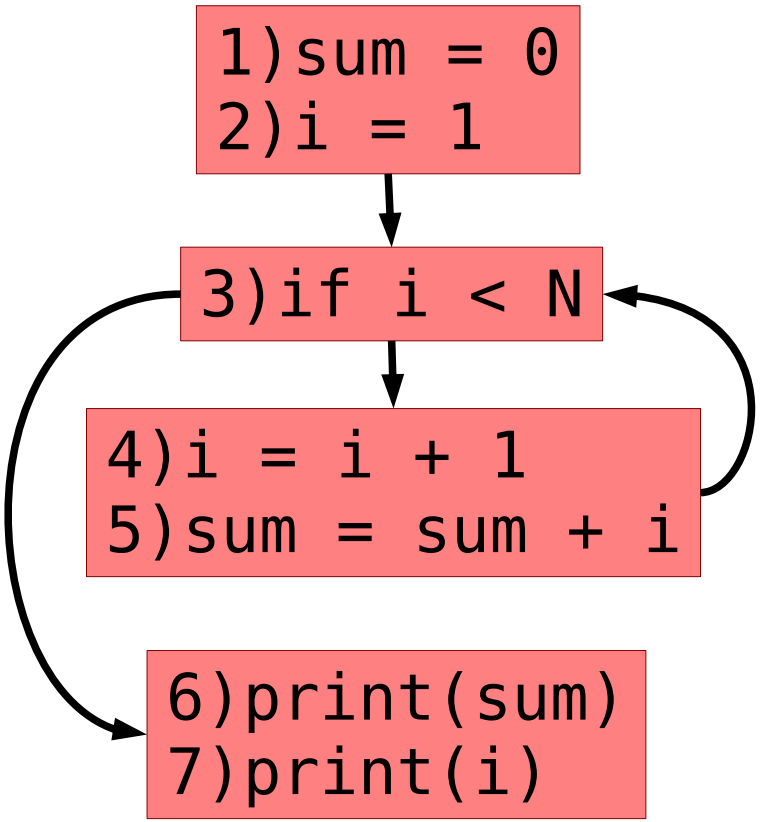

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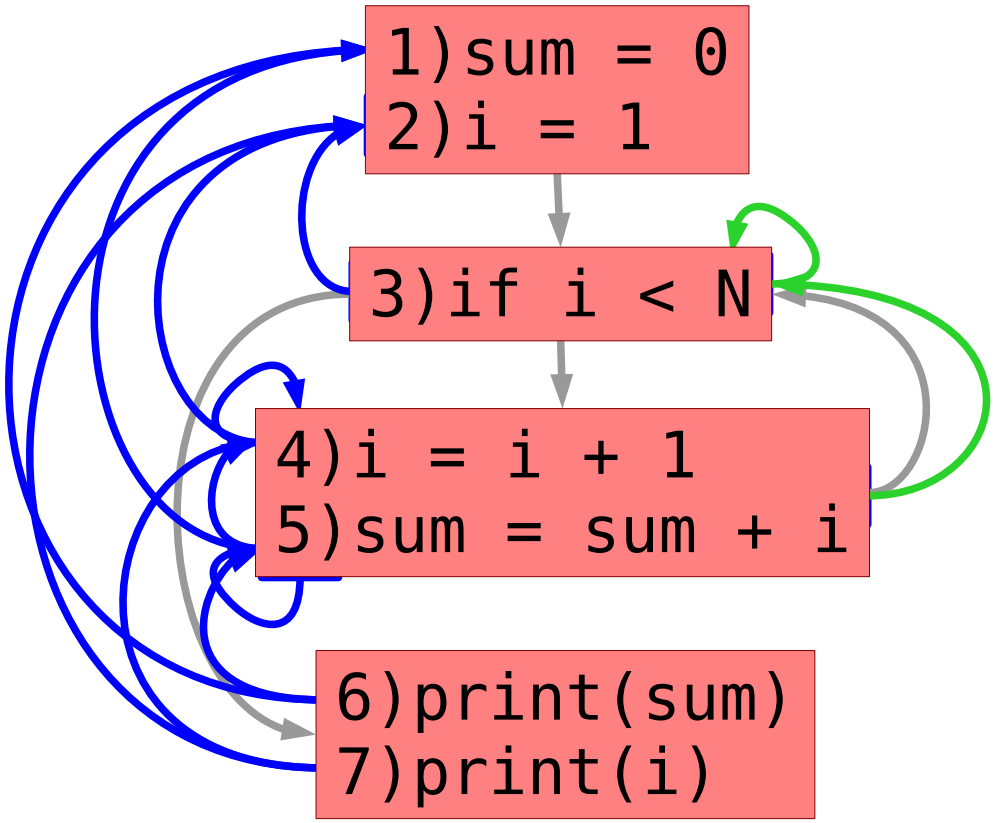

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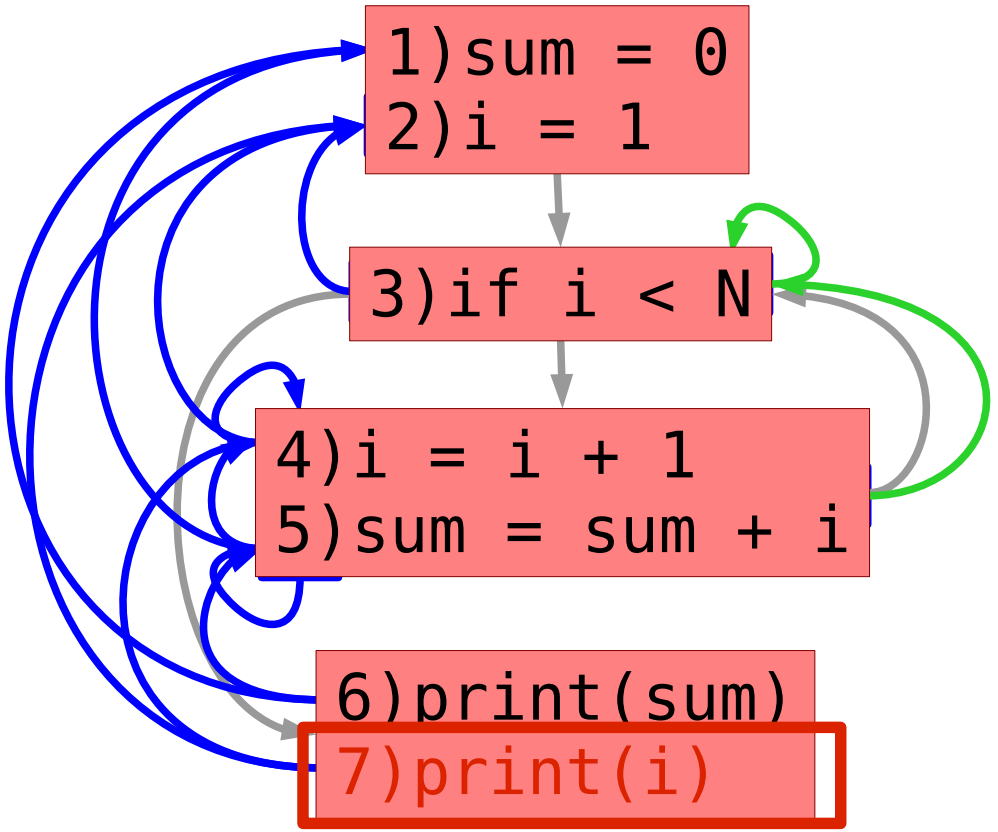

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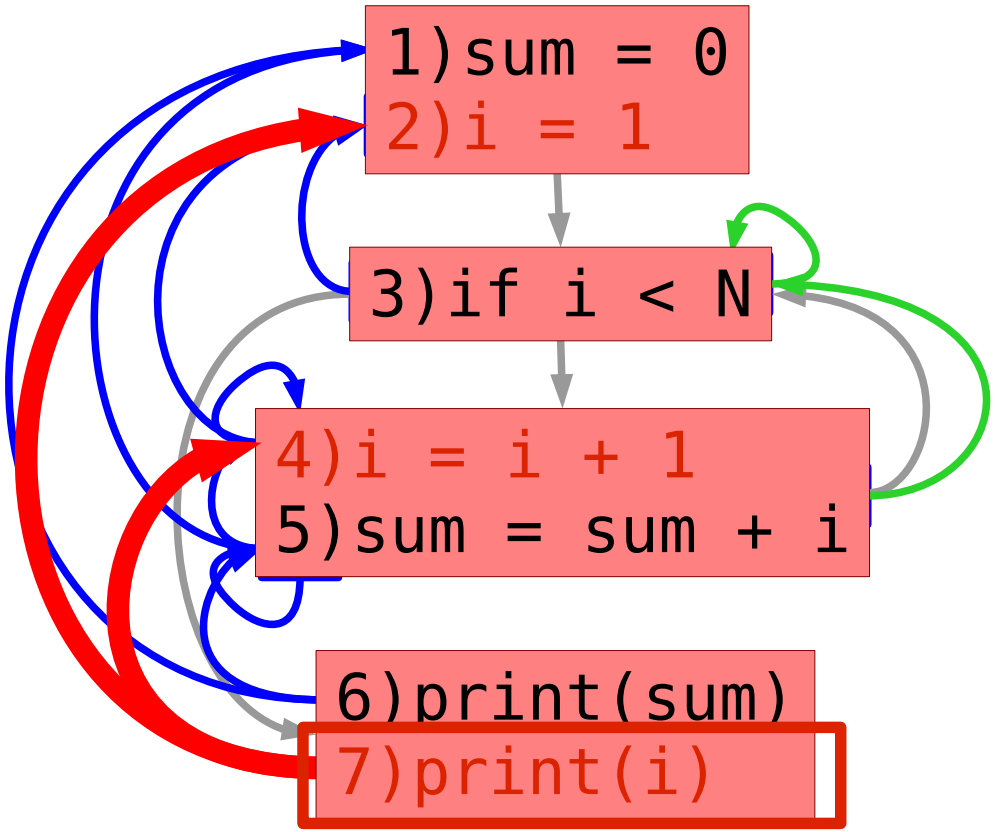

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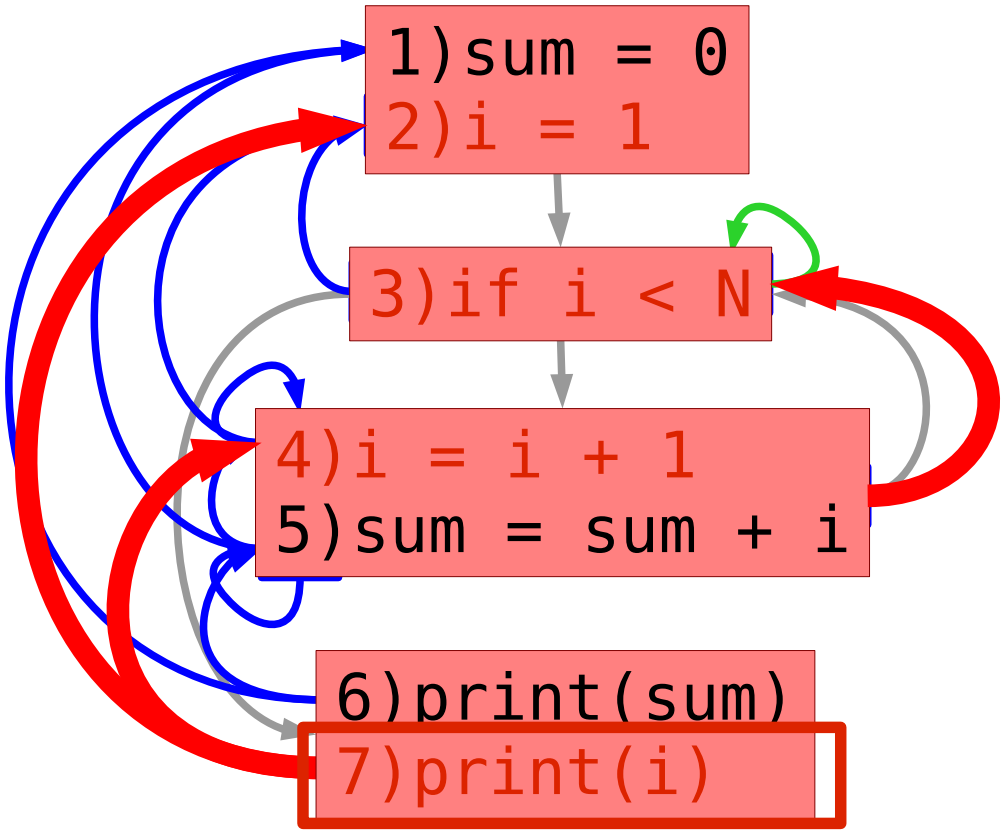

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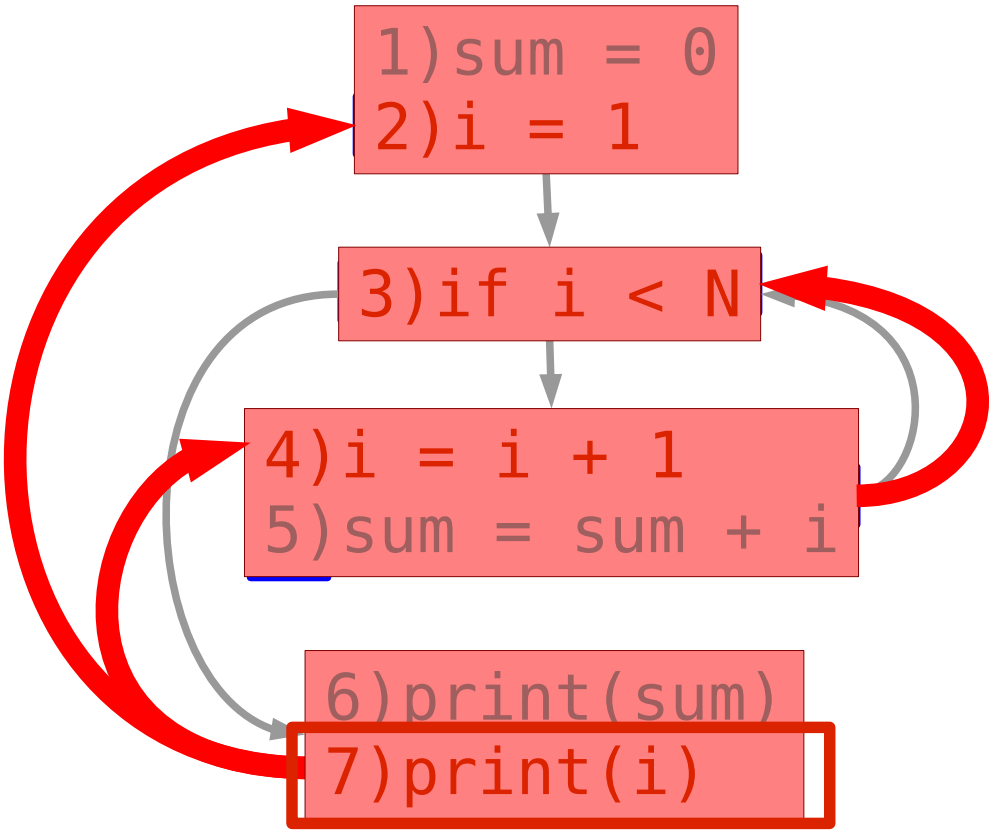

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What do nodes capture? Edges?

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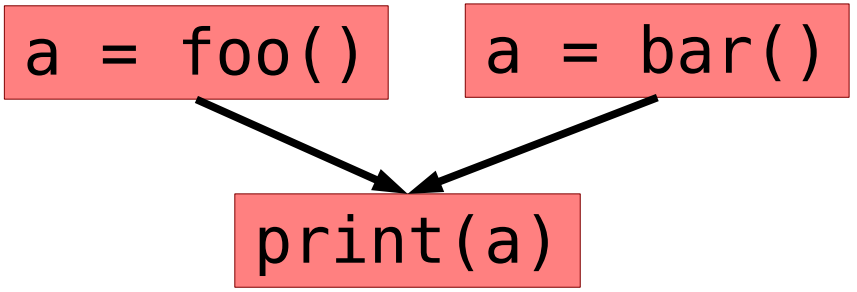

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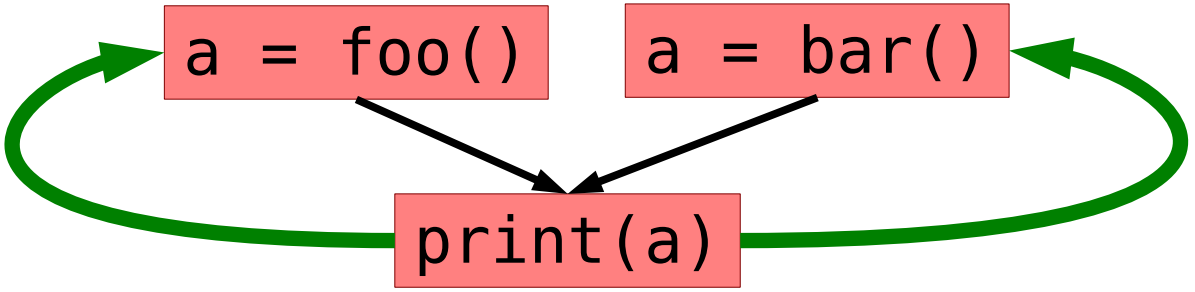

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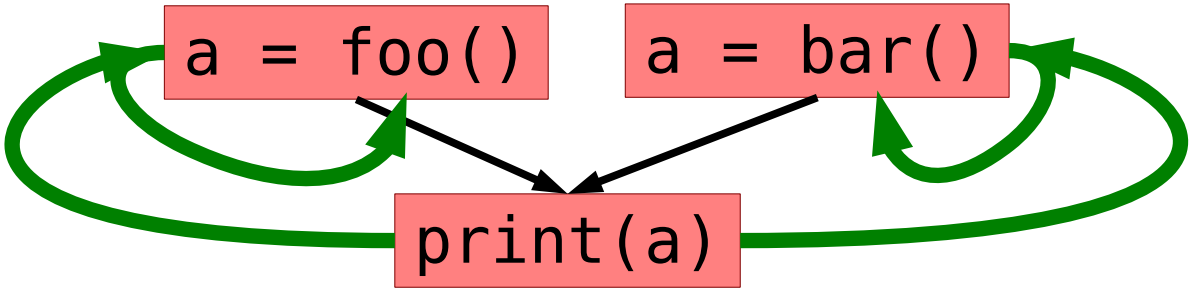

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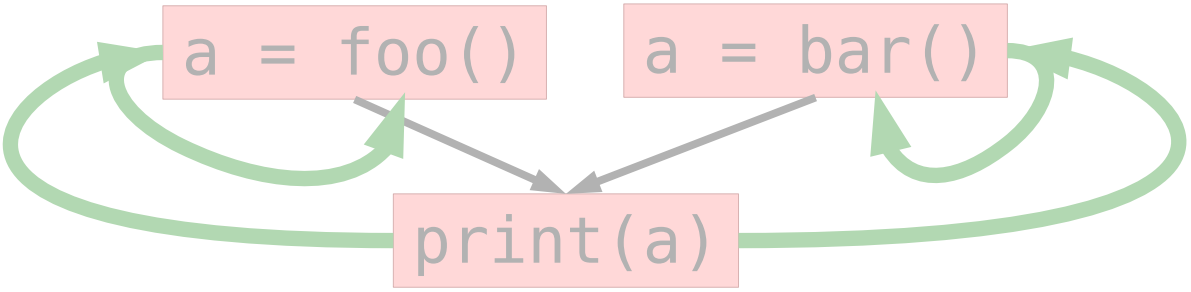

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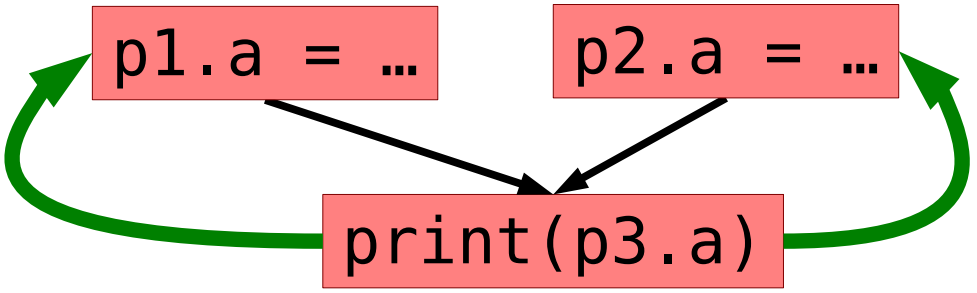

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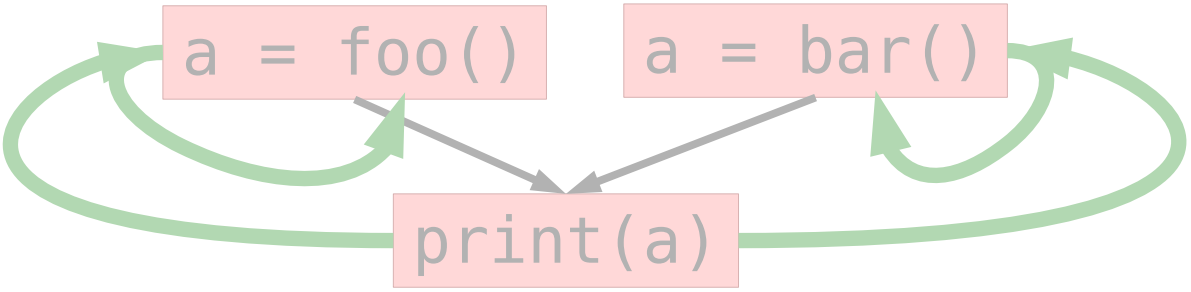

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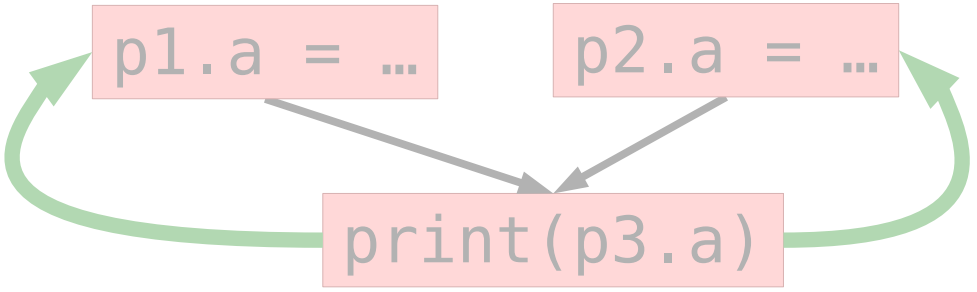

- Function pointers – must consider all possible call targets

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- Slow to compute
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- Very many statement instances and dynamic dependences to examine
- Misses alternative histories
  - What would have happened if … ?

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- Much more…