

Static Program Slicing with

in the winter semester 2023/24

by Florian Sihler



Program Slicing

```
1 sum ← 0
2 prod ← 1
3 n ← 10
4
5 for(i in 1:(n-1)) {
6     sum ← sum + i
7     prod ← prod * i
8 }
9
10 cat("Sum:", sum, "\n")
11 cat("Product:", prod, "\n")
```

slice(10, **sum**)



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n ← 10
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Input File



Parsing



Normalization



Dataflow



Slicing



Reconstruct

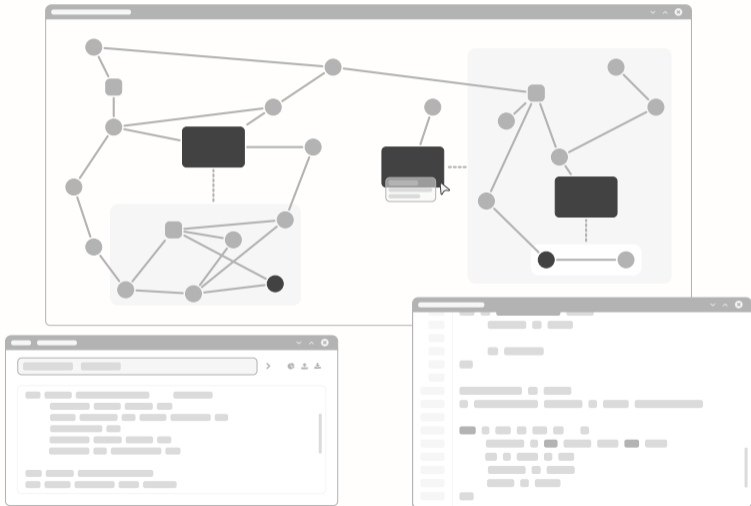


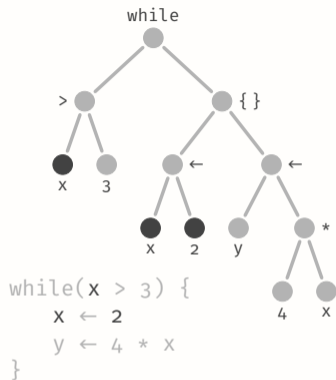
Output File



Interactive Visualization of Dataflow-Graphs

- 2 – 4 Students
- Visualize large graphs
- Web-Development
- Concepts:
Dataflow-Graphs,
Graph-Layouting,
User Interfaces





while(x > 3) {
 x ← 2
}

- 1–3 Students
- Generate executable code
- Existing implementation in TypeScript
- Concepts:
Abstract Syntax Trees, Parsers, Pretty Printing

Layout-Preserving Slice Reconstruction

Static Program Slicing with flowR

- Interactive Visualization of Dataflow-Graphs
- Layout-Preserving Slice Reconstruction



Florian Sihler
florian.sihler@uni-ulm.de

