

CS738: Advanced Compiler Optimizations

SSAPRE: Example

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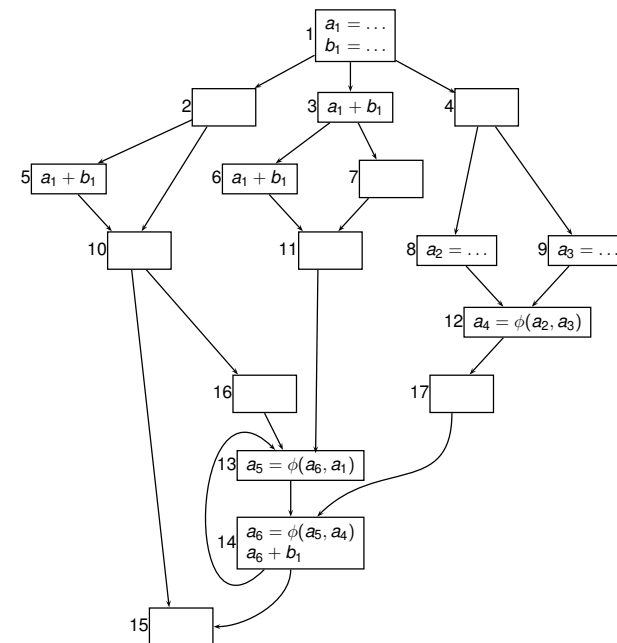
karkare@cse.iitk.ac.in

<http://www.cse.iitk.ac.in/~karkare/cs738>

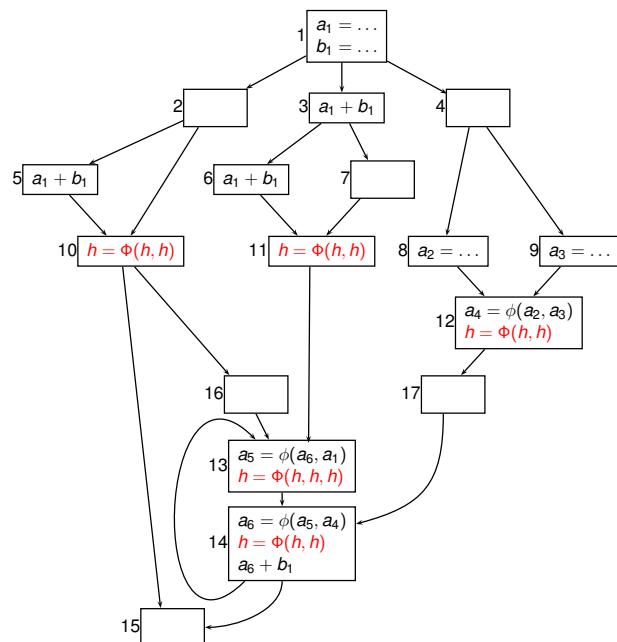
Department of CSE, IIT Kanpur



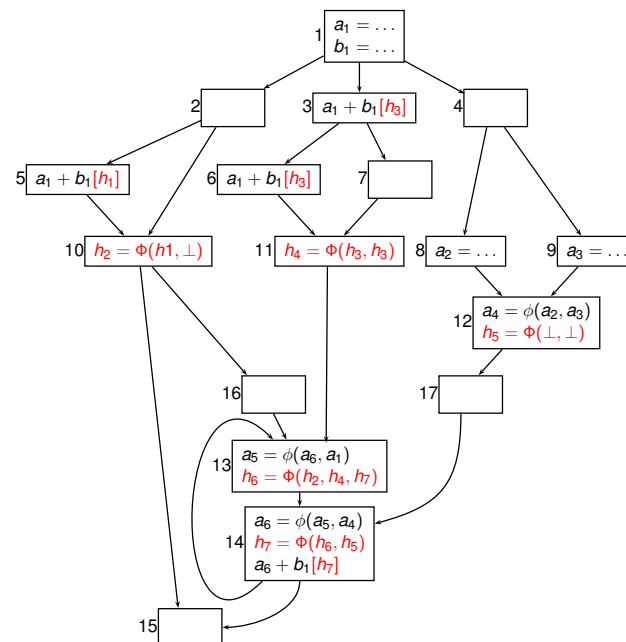
Example



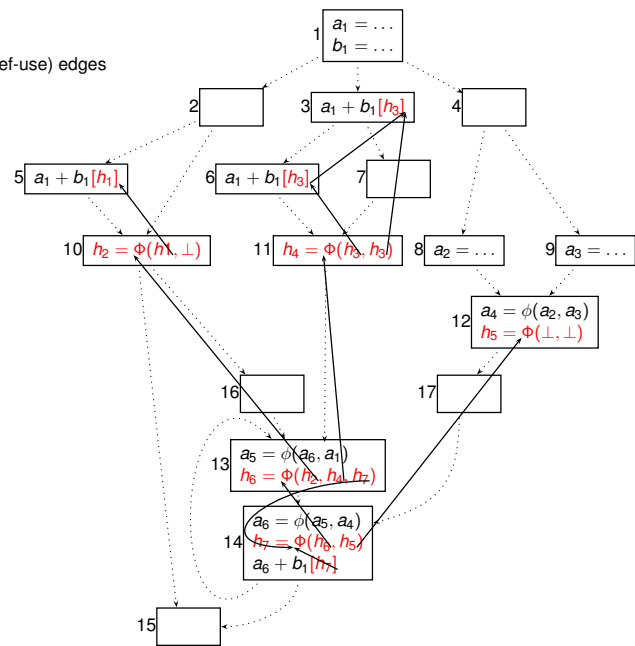
Φ insertion



Rename

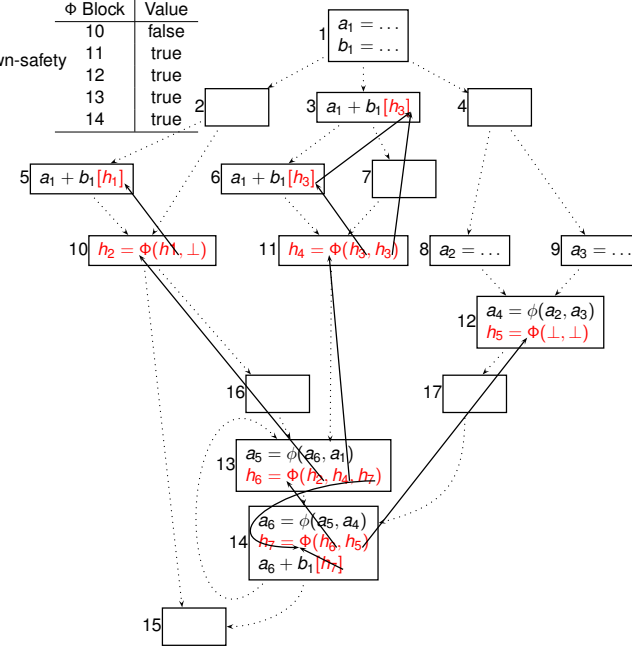


FRG (def-use) edges



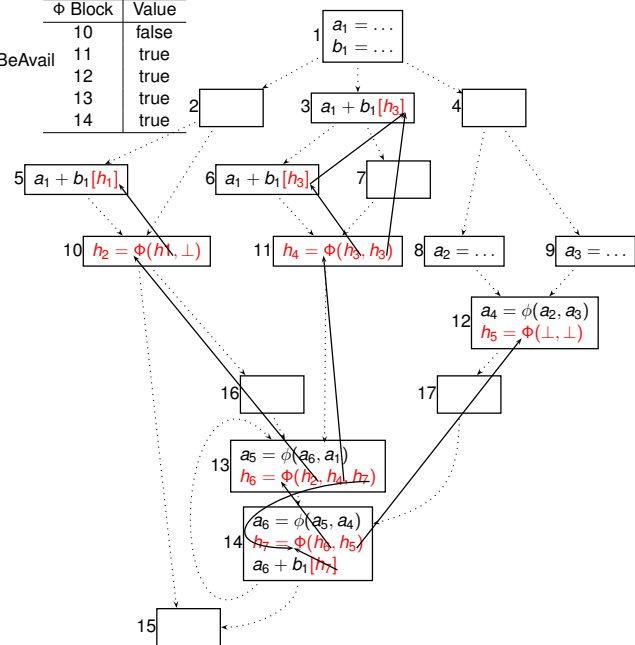
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|--------------|-------|
| 10 | false |
| 11 | true |
| 12 | true |
| 13 | true |
| 14 | true |

Down-safety



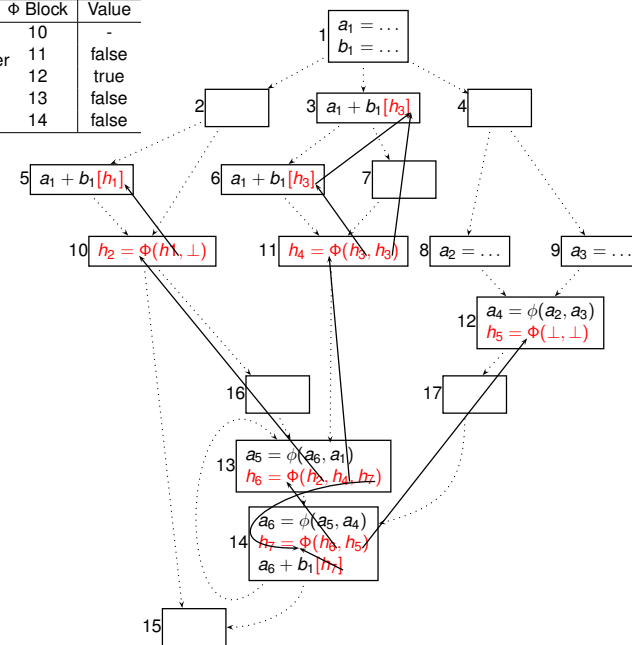
CanBeAvail

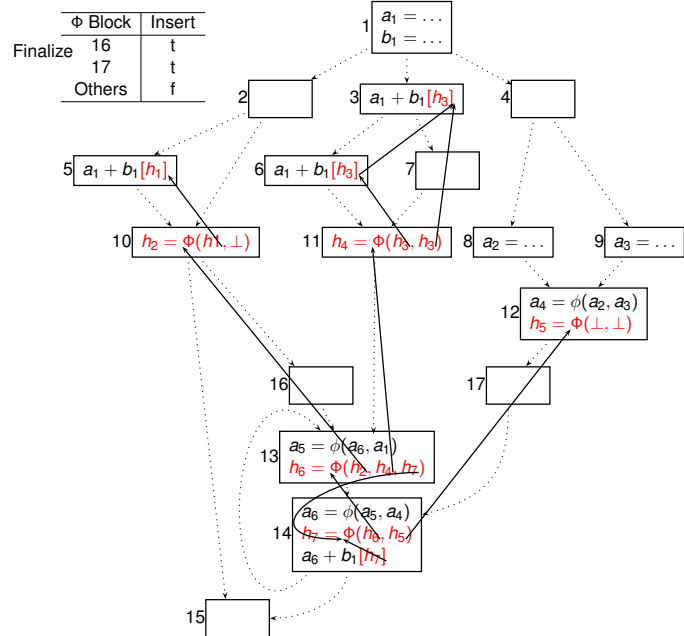
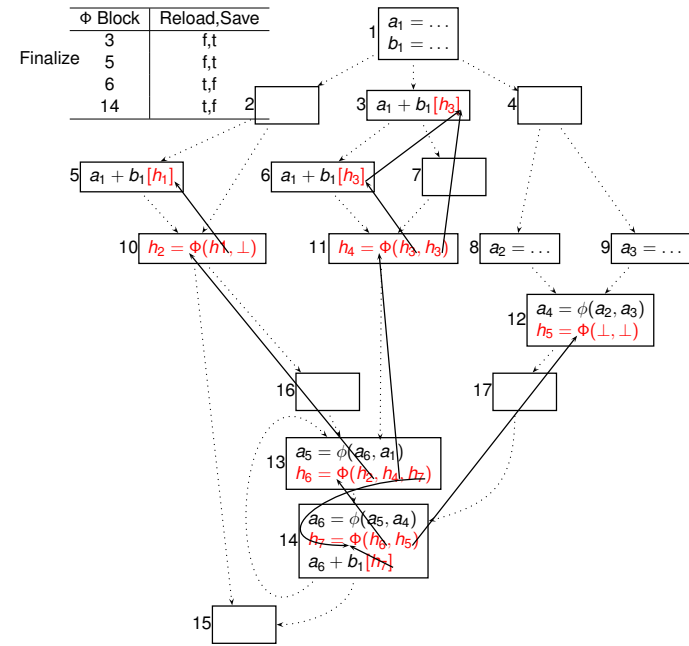
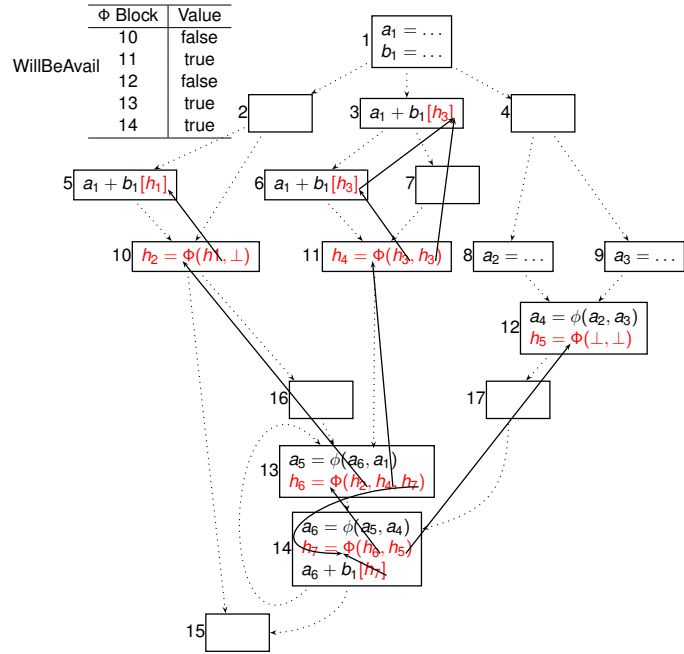
| Φ Block | Value |
|--------------|-------|
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| 11 | true |
| 12 | true |
| 13 | true |
| 14 | true |



Later

| Φ Block | Value |
|--------------|-------|
| 10 | - |
| 11 | false |
| 12 | true |
| 13 | false |
| 14 | false |





Code Motion

