Assignment 3

Yulei Sui

University of Technology Sydney, Australia

Andersen's Pointer Analysis

Algorithm

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entry:
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call void @swap(i8** %a, i8** %b)
ret i32 0
}
define void @swap(i8** %p, i8** %q)
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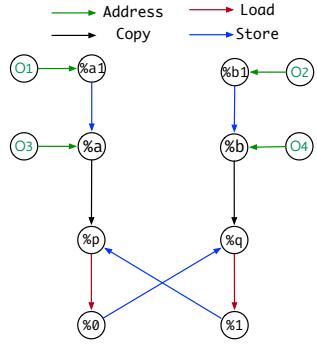


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WorkList: a vector of nodes
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while WorkList ≠ ∅ do
  p ← popFromWorklist()
  foreach o ∈ pts(p) do
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      if q→o ∉ E then
        E ← E ∪ {q→o}  // add copy edge
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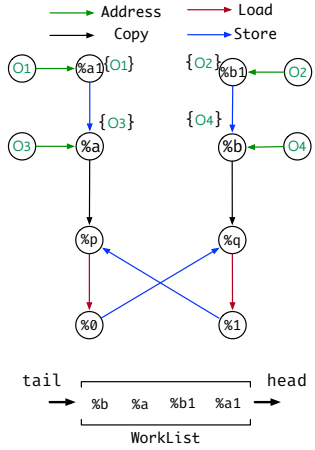


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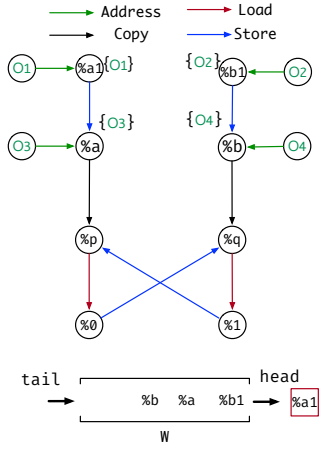


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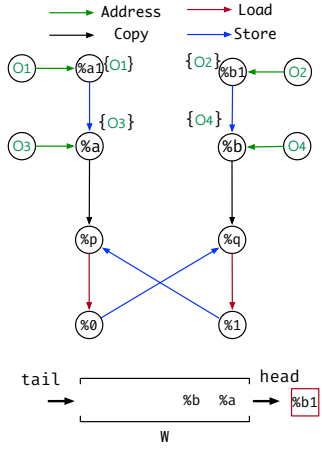


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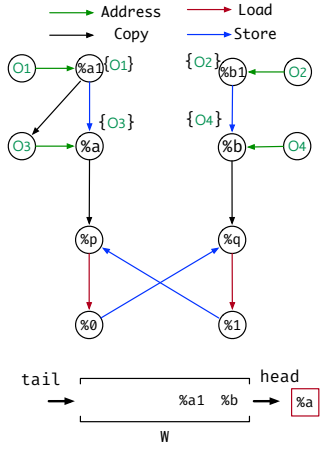


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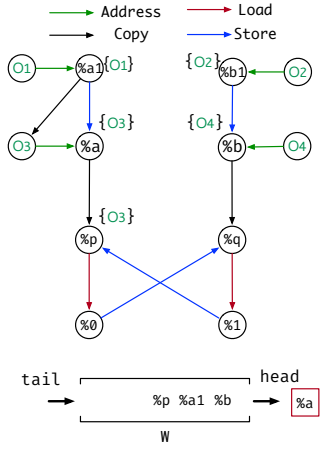


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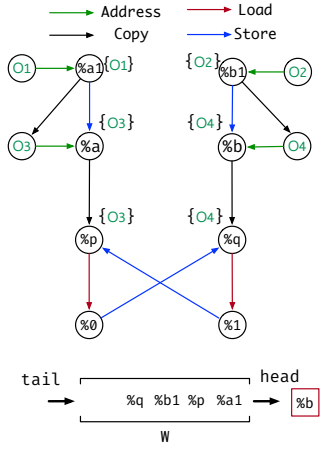


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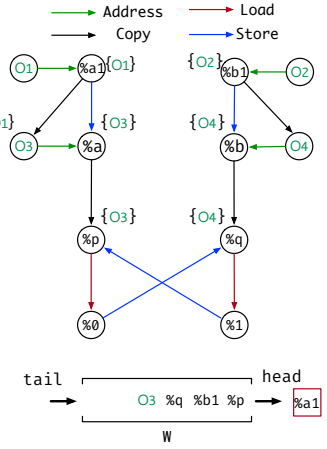


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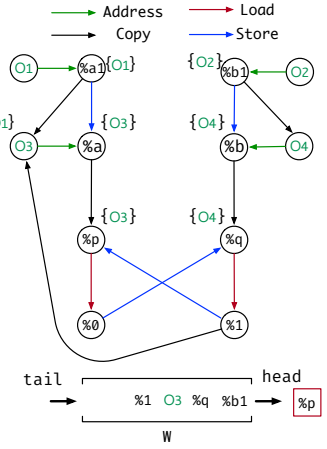


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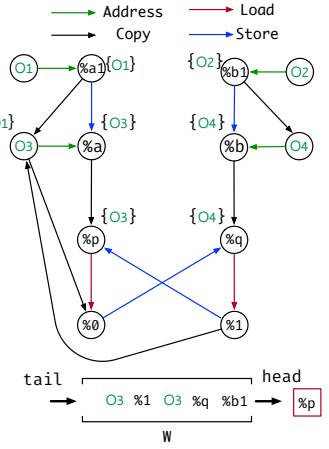


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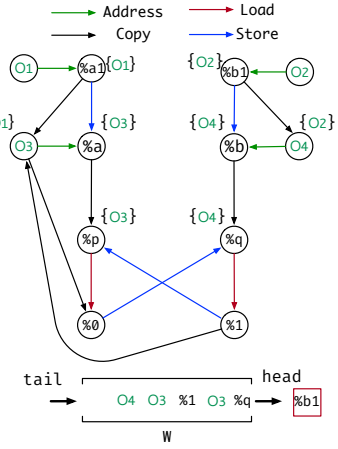


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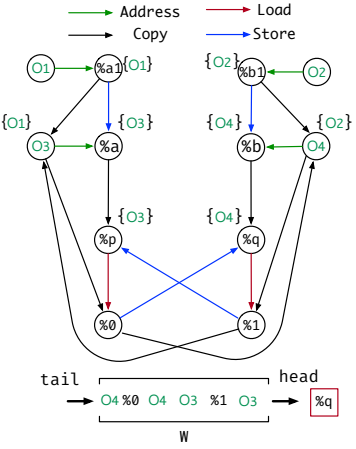


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Andersen's Pointer Analysis

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store i8* %a1, i8** %a, align 8
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call void @swap(i8** %a, i8** %b)
ret i32 0
}
define void @swap(i8** %p, i8** %q)
#0 {
entry:
%0 = load i8** %p, align 8
%1 = load i8** %q, align 8
store i8* %1, i8** %p, align 8
store i8* %0, i8** %q, align 8
ret void
}
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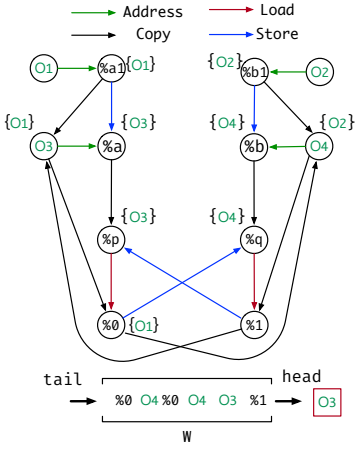


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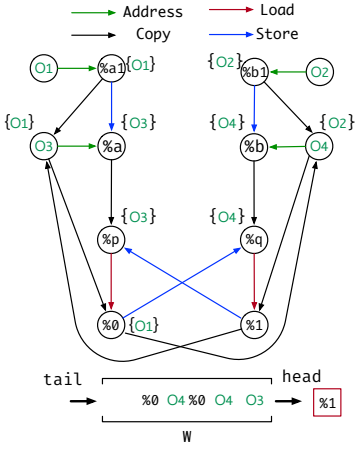


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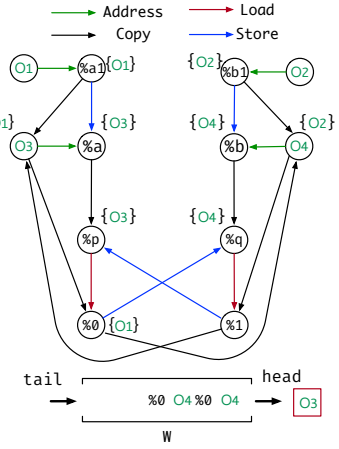


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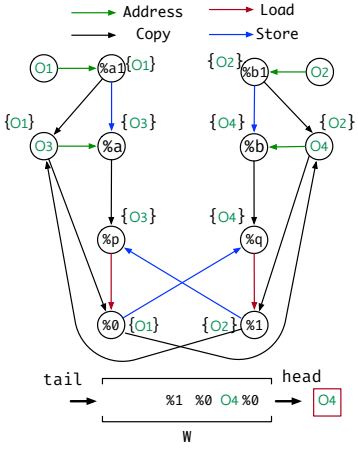


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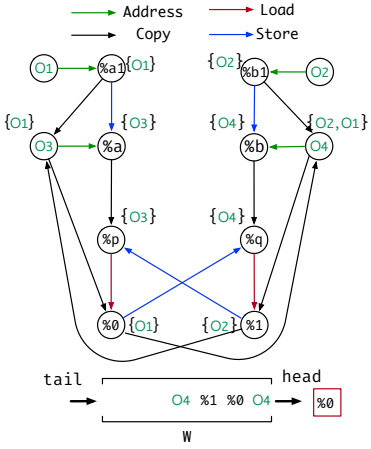


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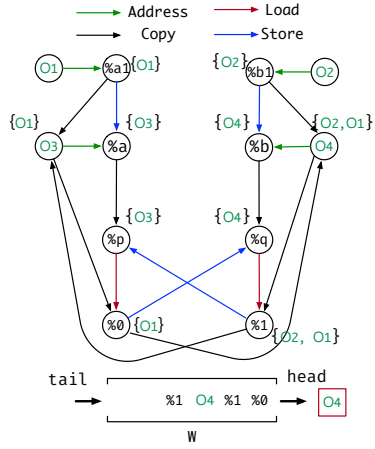


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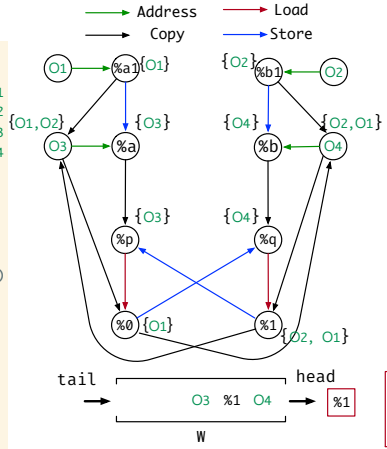


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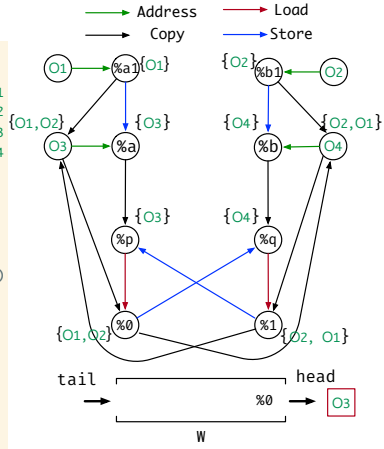


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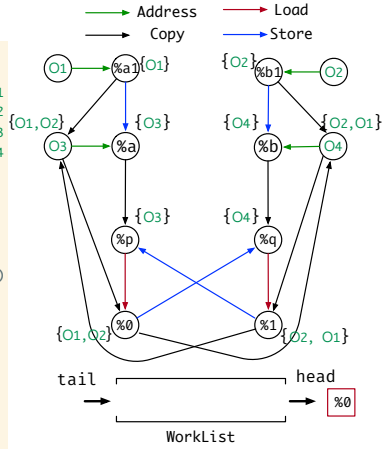


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