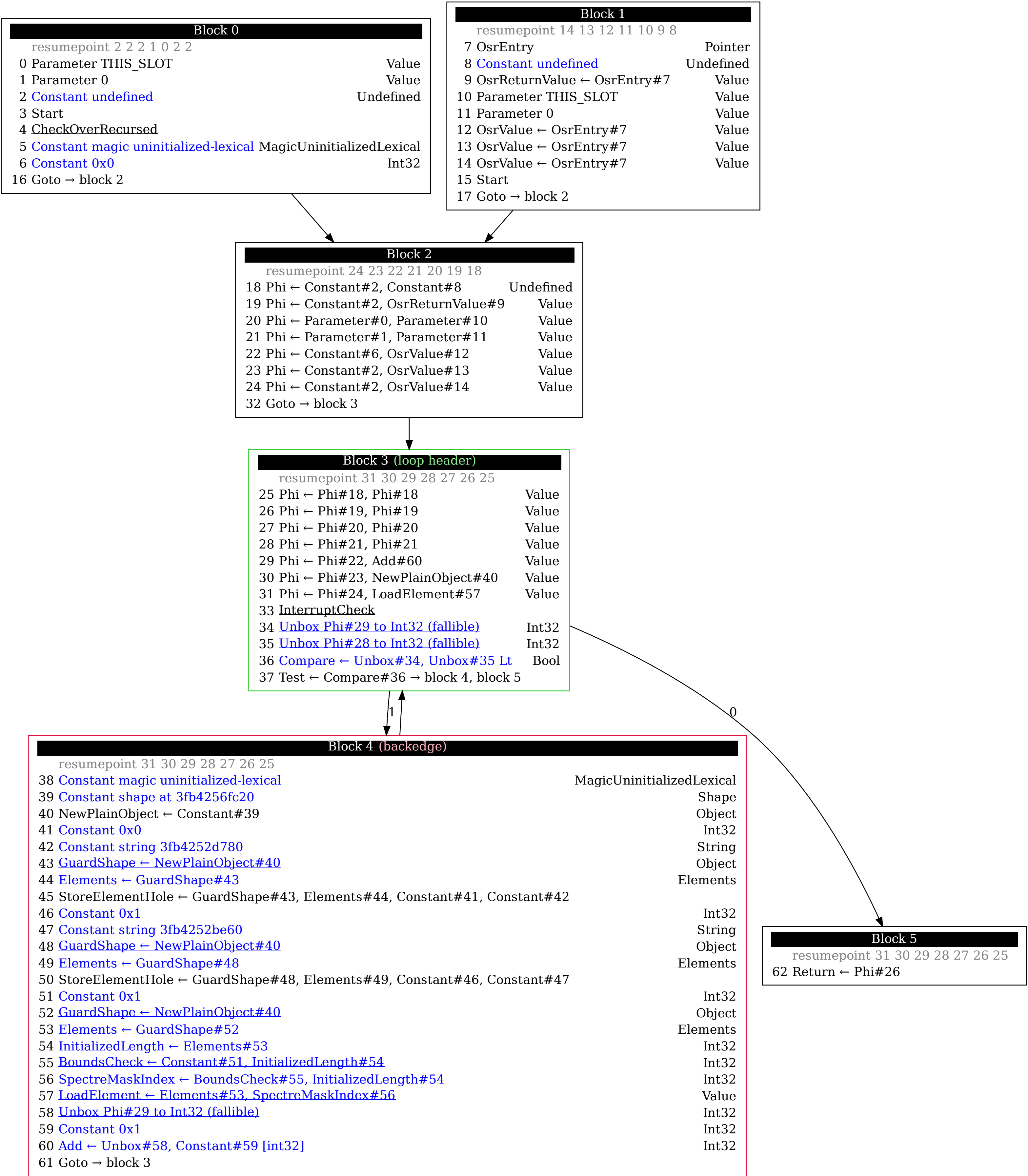
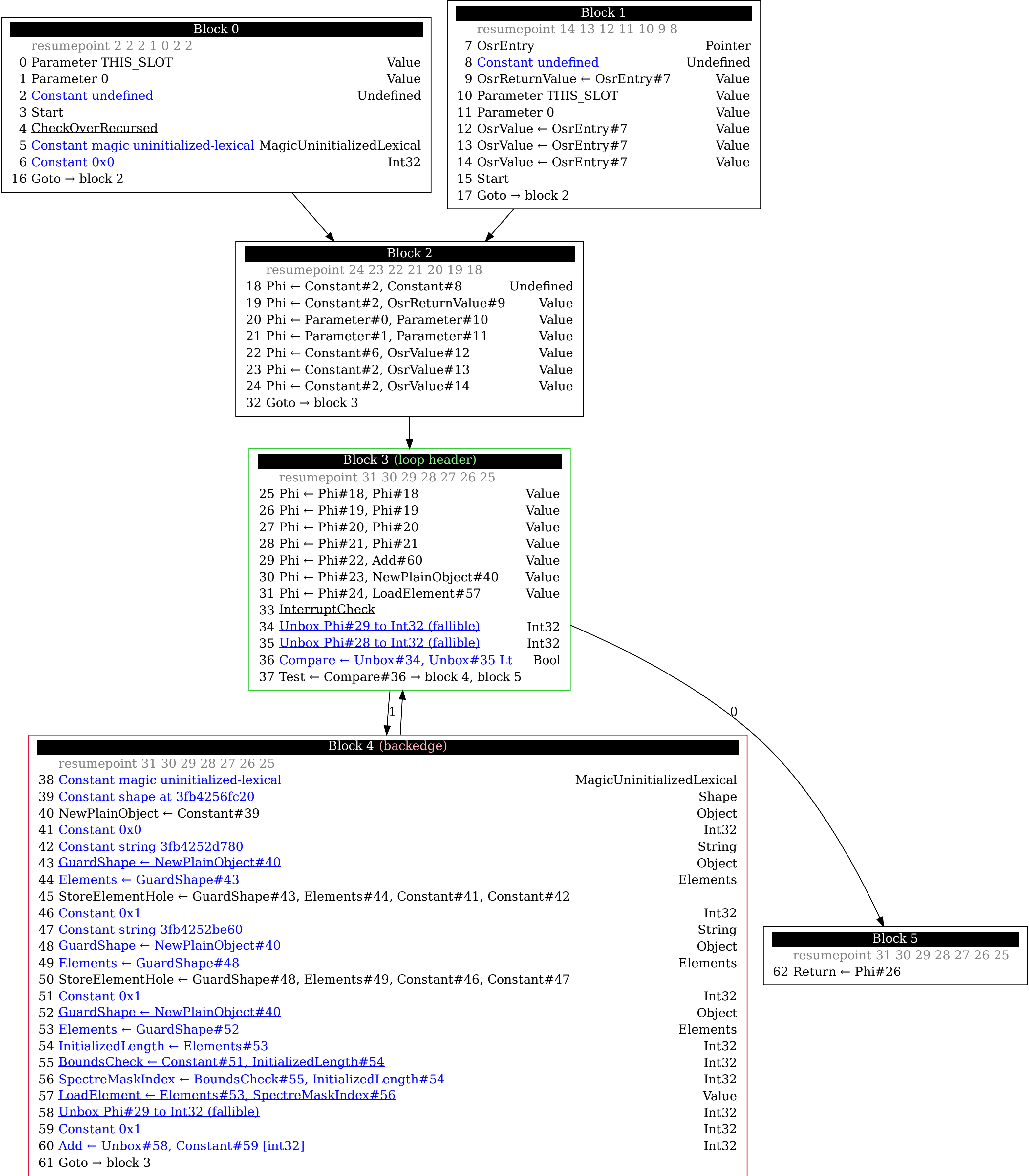


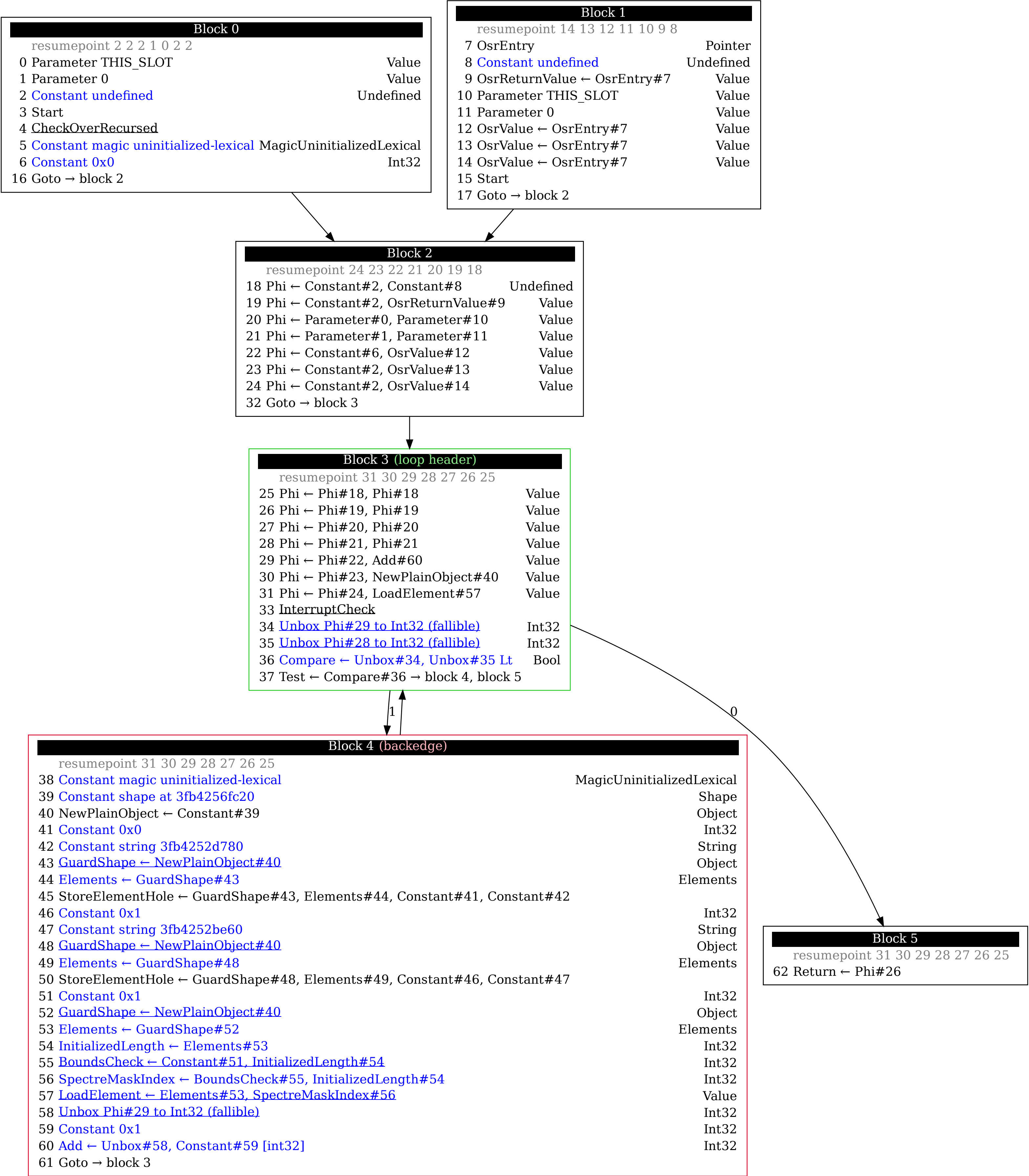
./Benchmarks/prop\_access.js:2 - Prune Unused Branches  
movable, guard, in worklist, recovered on bailout



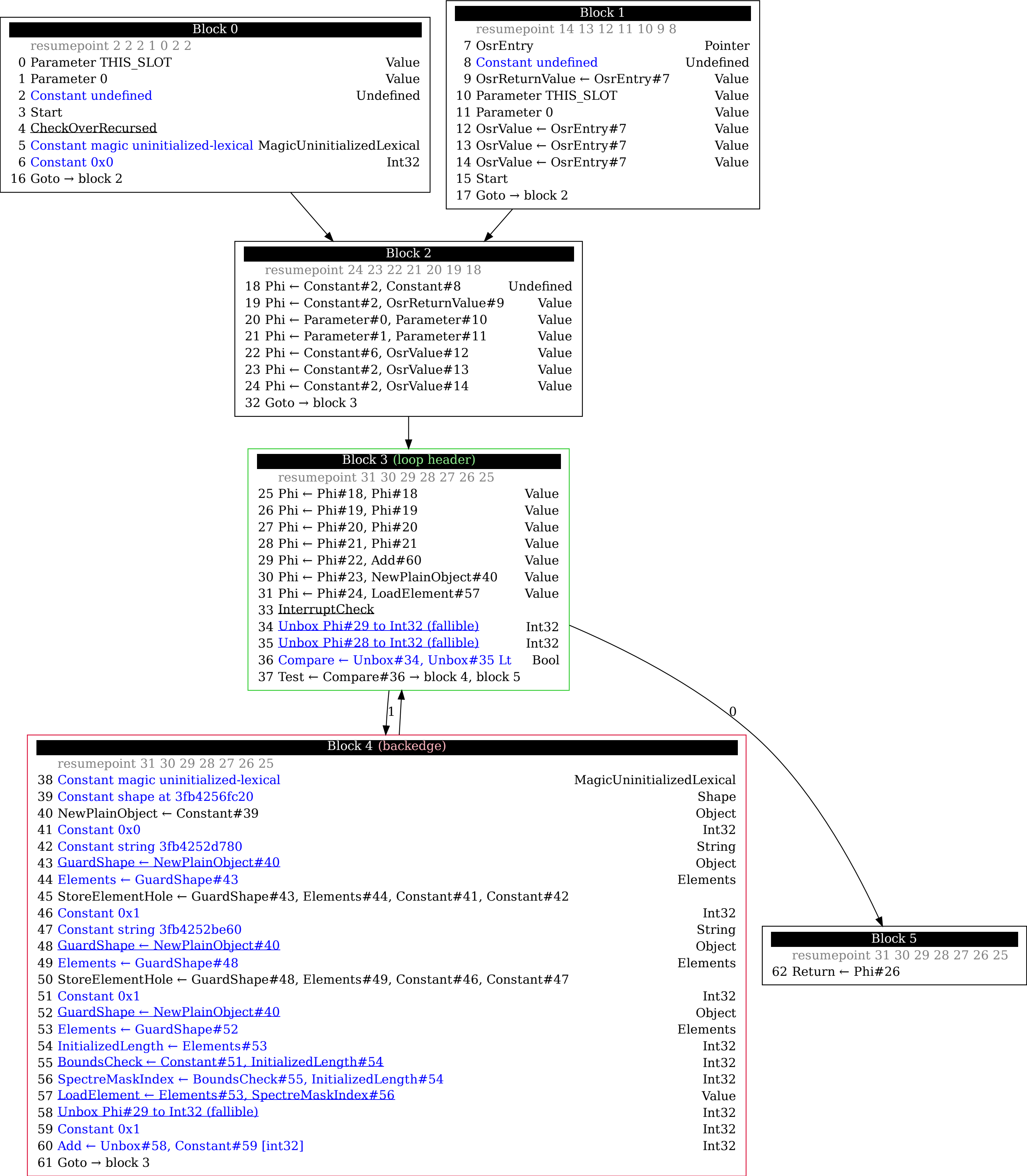
./Benchmarks/prop\_access.js:2 - Fold Empty Blocks  
movable, guard, in worklist, recovered on bailout



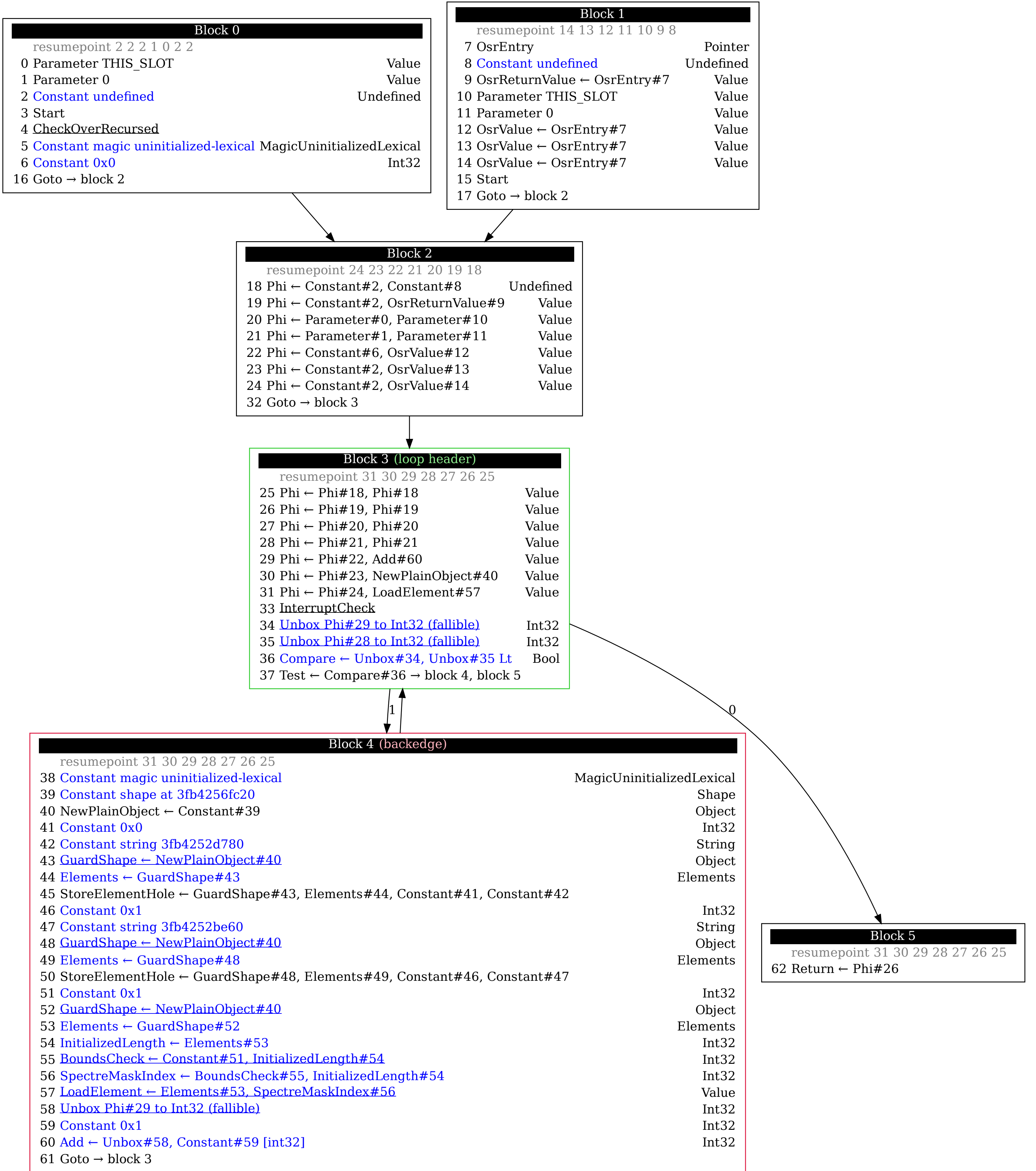




./Benchmarkers/prop\_access.js:2 - Fold Tests  
movable, guard, in worKlist, recovered on bailout

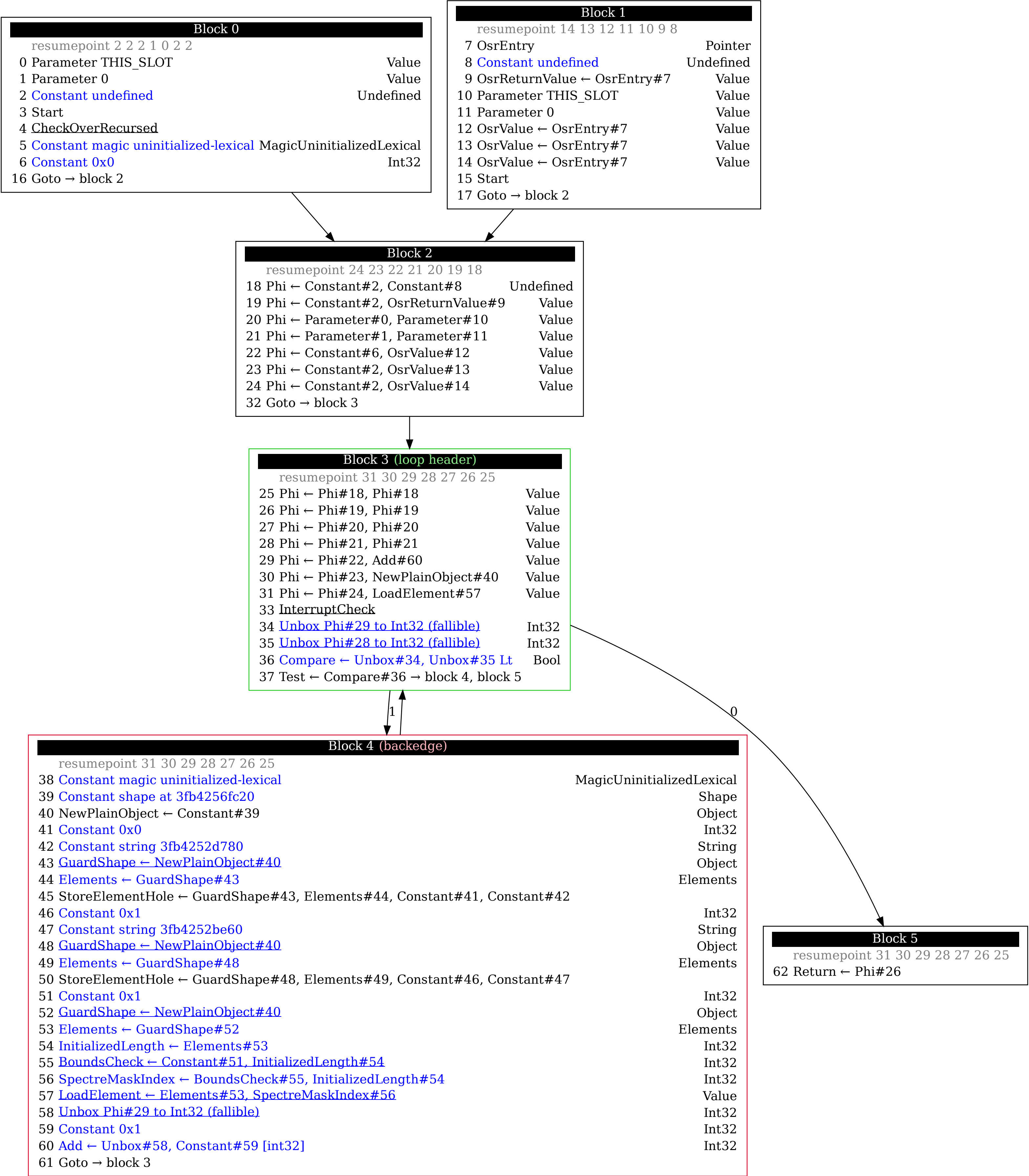


./Benchmarks/prop\_access.js:2 - Split Critical Edges  
movable, guard, in worklist, recovered on bailout





./Benchmarks/prop\_access.js:2 - Renumber Blocks  
movable, guard, in worklist, recovered on bailout



./Benchmarks/prop\_access.js:2 - Eliminate this  
movable, guard, in worklist, recovered on bailout





./Benchmarkers/prop\_access.js:2 - Iterator Indices  
movable, guard, in worklist, recovered on bailout



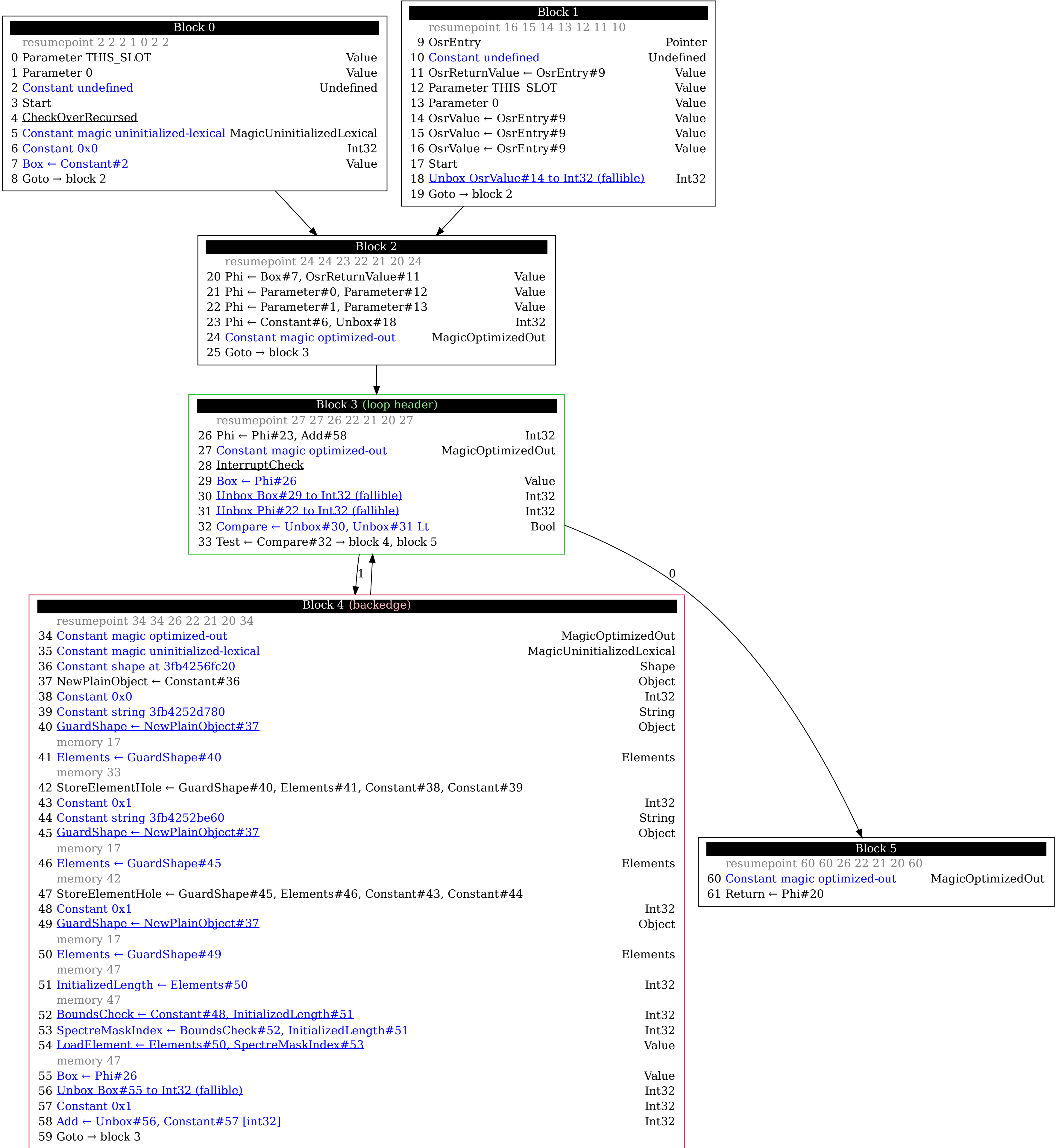
./Benchmarkers/prop\_access.js:2 - Scalar Replacement  
movable, guard, in worklist, recovered on bailout







./Benchmarkers/prop\_access.js:2 - Alias analysis  
movable, guard, in worklist, recovered on bailout

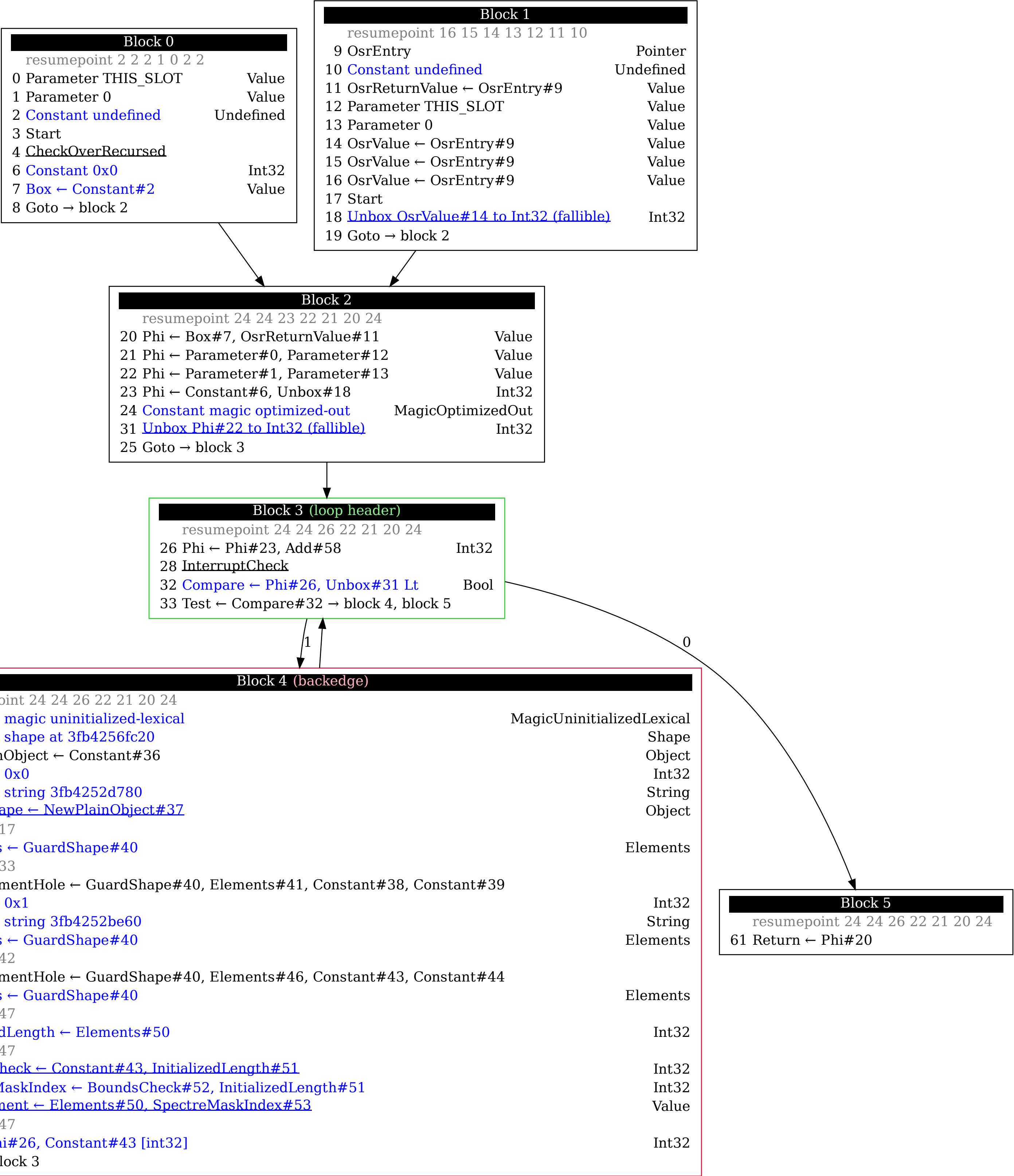


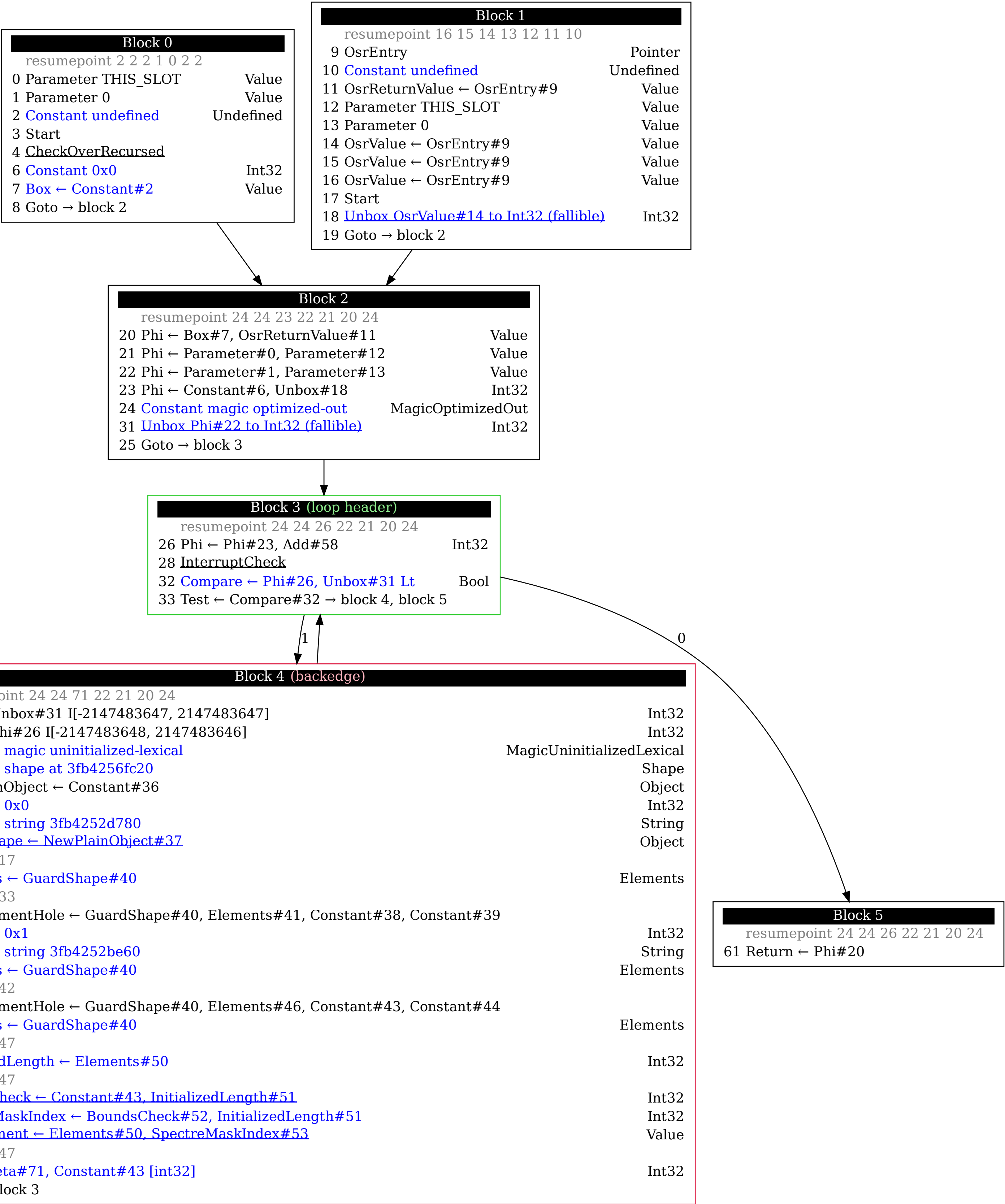
./Benchmarks/prop\_access.js:2 - Eliminate dead resume point operands  
movable, guard, in worklist, recovered on bailout



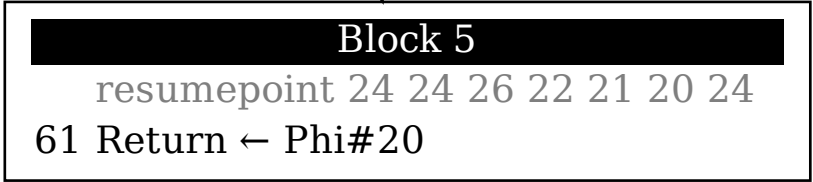
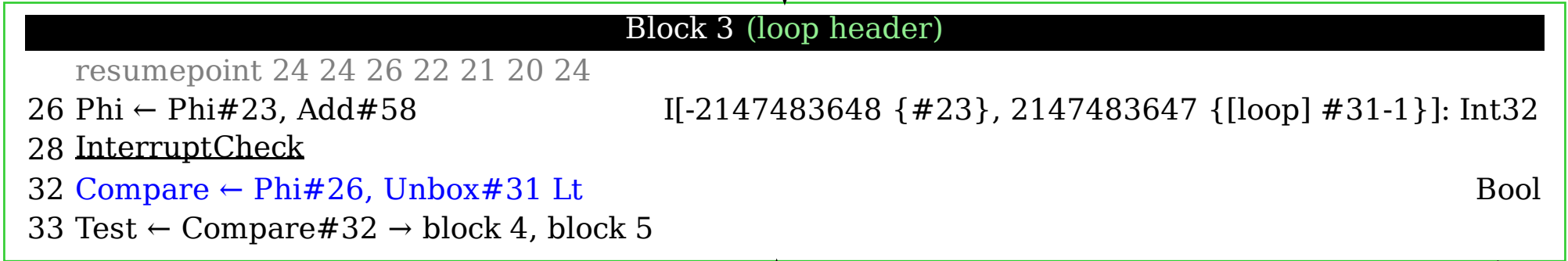
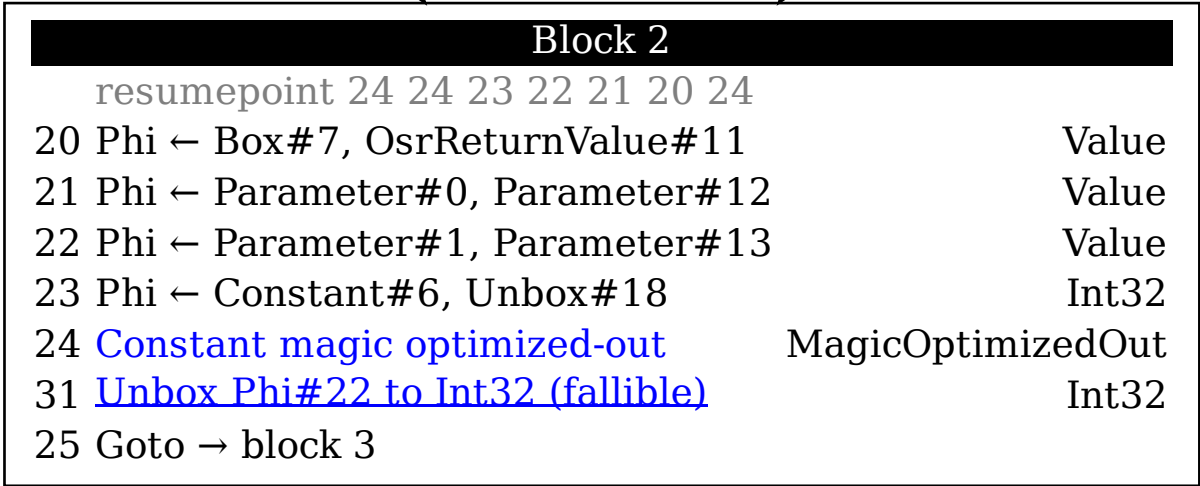
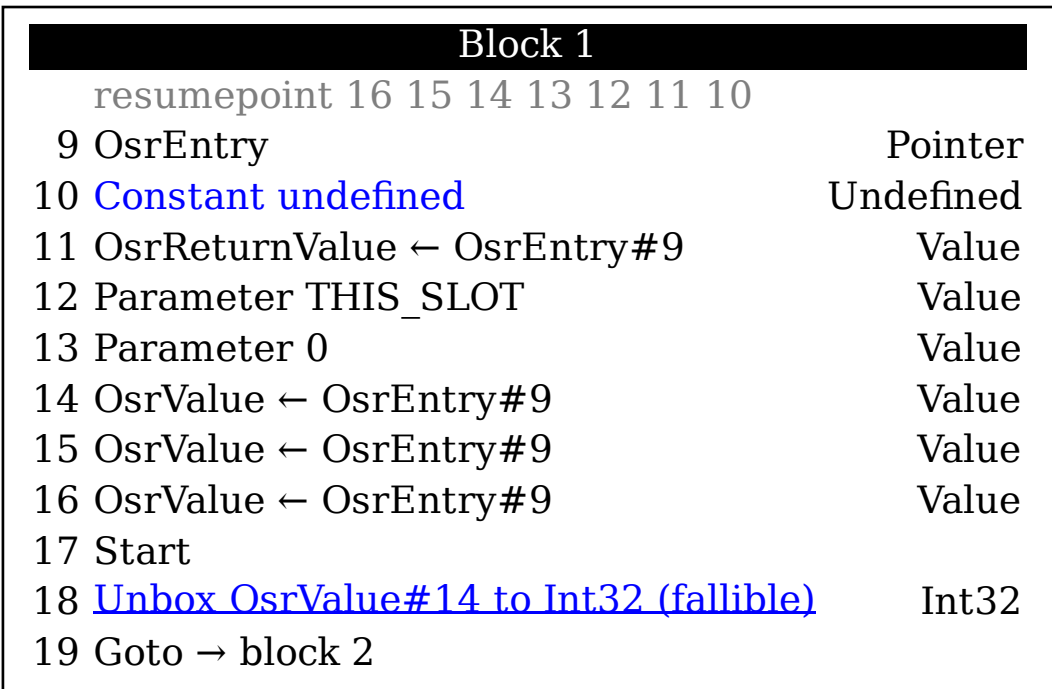
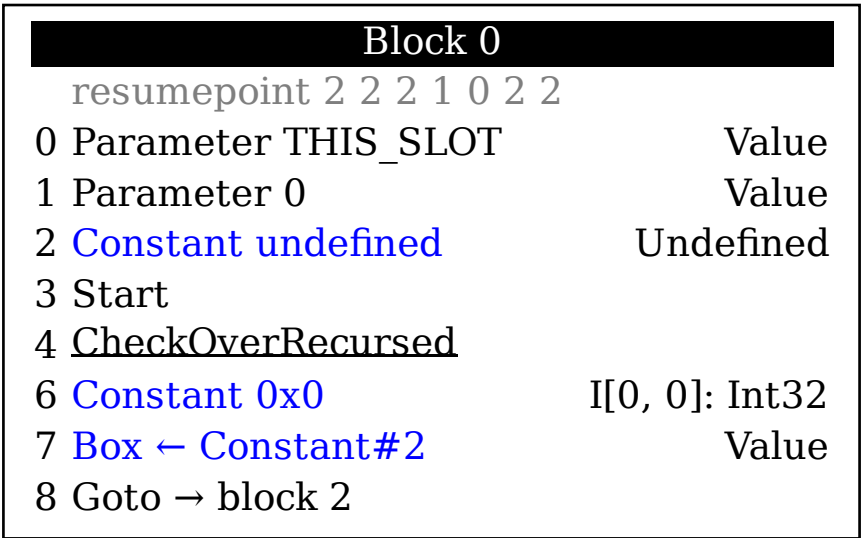




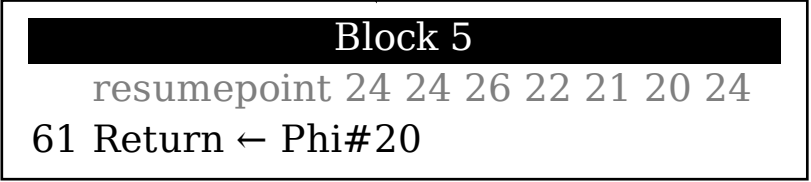
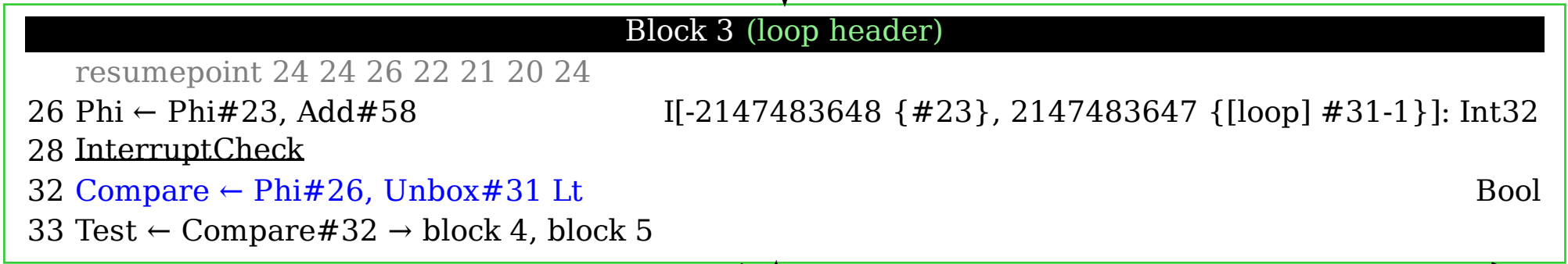
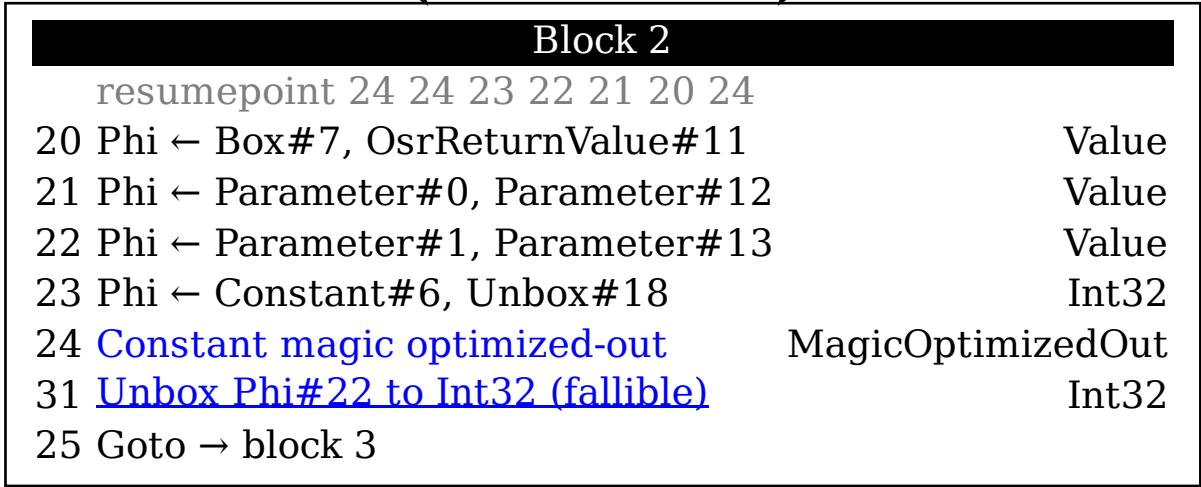
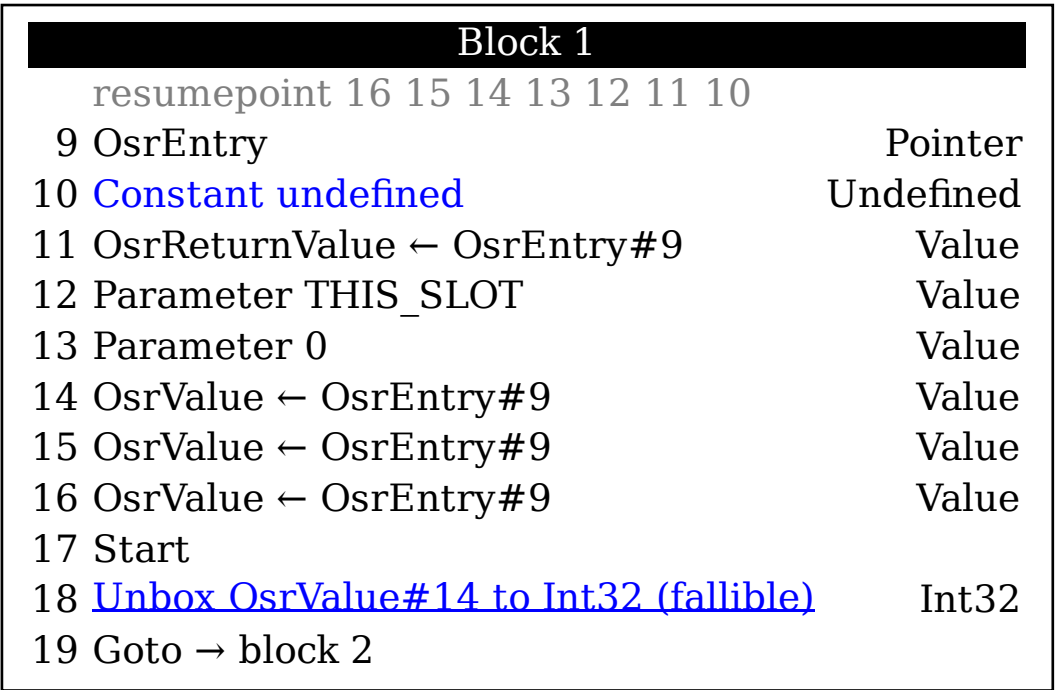
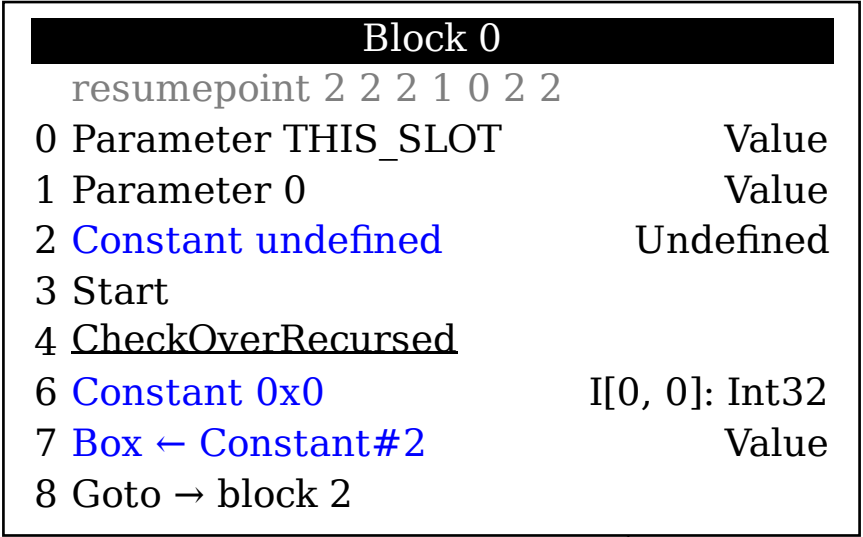




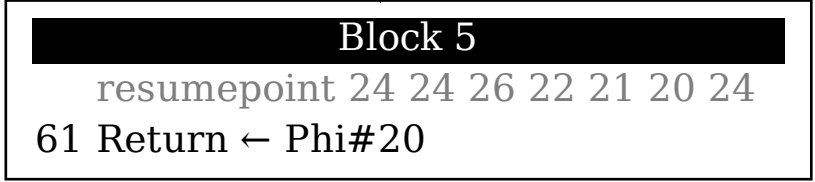
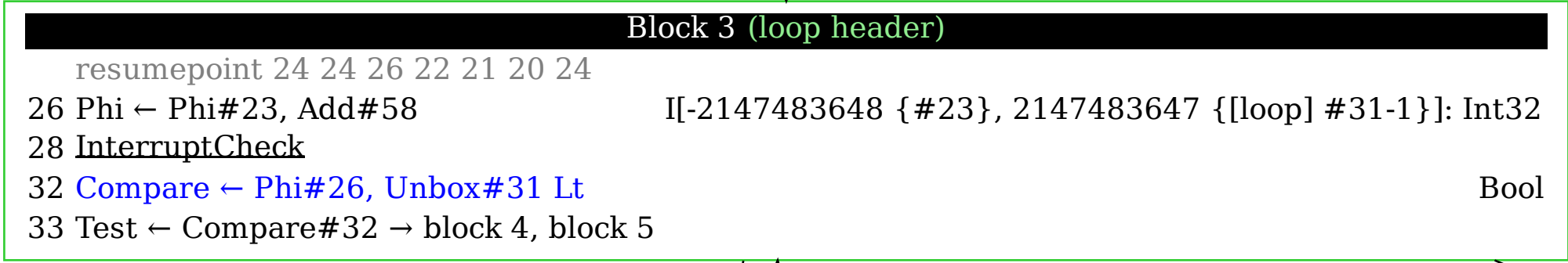
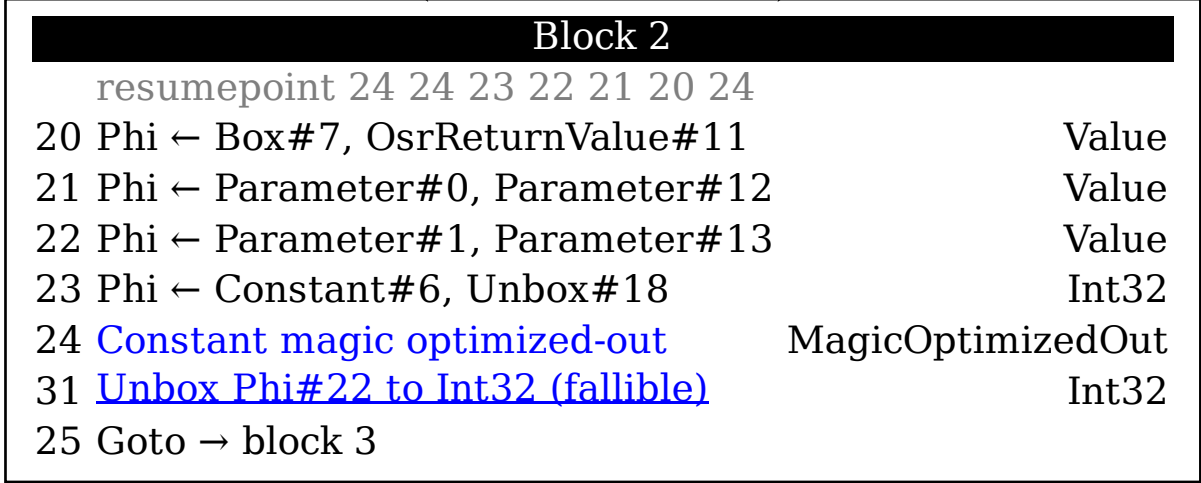
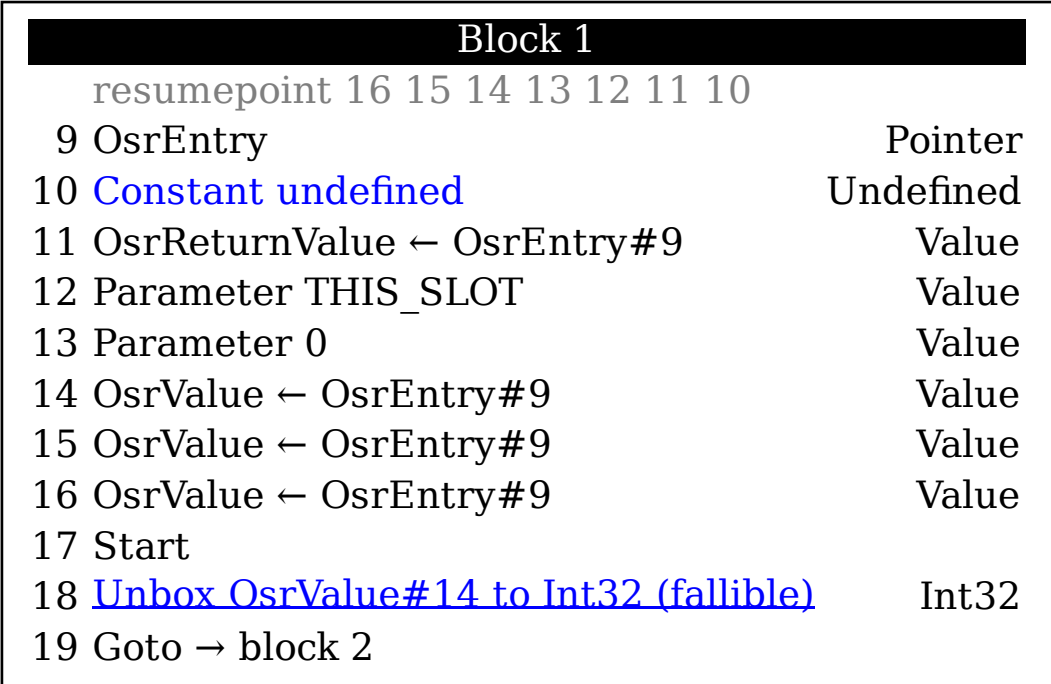
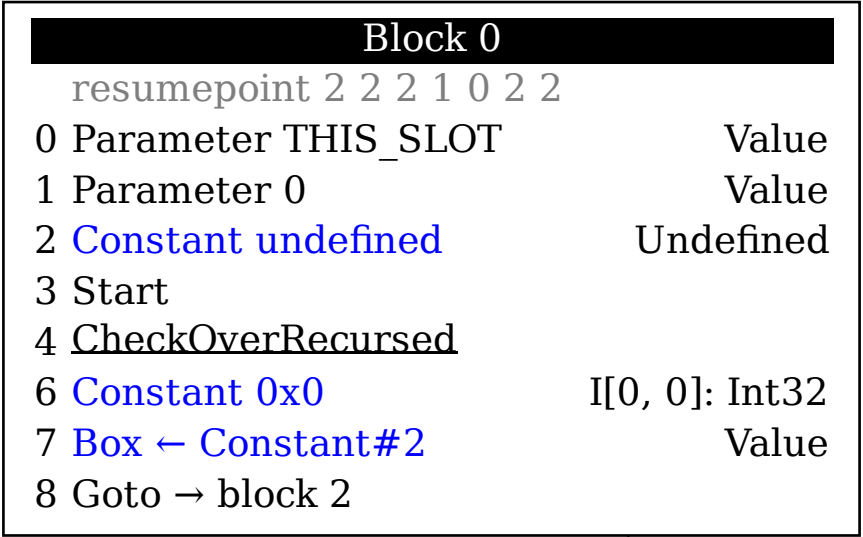
./Benchmarkers/prop\_access.js:2 - Range Analysis  
movable, guard, in worklist, recovered on bailout







**./Benchmarks/prop\_access.js:2 - RA check UCE**  
movable, guard, in worklist, recovered on bailout



**./Benchmarks/prop\_access.js:2 - Truncate Doubles**  
movable, guard, in worklist, recovered on bailout

**Block 0**  
resumepoint 2 2 2 1 0 2 2  
0 Parameter THIS\_SLOT Value  
1 Parameter 0 Value  
2 Constant undefined Undefined  
3 Start  
4 CheckOverRecursed  
6 Constant 0x0 I[0, 0]: Int32  
7 Box ← Constant#2 Value  
8 Goto → block 2

**Block 1**  
resumepoint 16 15 14 13 12 11 10  
9 OsrEntry Pointer  
10 Constant undefined Undefined  
11 OsrReturnValue ← OsrEntry#9 Value  
12 Parameter THIS\_SLOT Value  
13 Parameter 0 Value  
14 OsrValue ← OsrEntry#9 Value  
15 OsrValue ← OsrEntry#9 Value  
16 OsrValue ← OsrEntry#9 Value  
17 Start  
18 Unbox OsrValue#14 to Int32 (fallible) Int32  
19 Goto → block 2

**Block 2**  
resumepoint 24 24 23 22 21 20 24  
20 Phi ← Box#7, OsrReturnValue#11 Value  
21 Phi ← Parameter#0, Parameter#12 Value  
22 Phi ← Parameter#1, Parameter#13 Value  
23 Phi ← Constant#6, Unbox#18 Int32  
24 Constant magic optimized-out MagicOptimizedOut  
31 Unbox Phi#22 to Int32 (fallible) Int32  
25 Goto → block 3

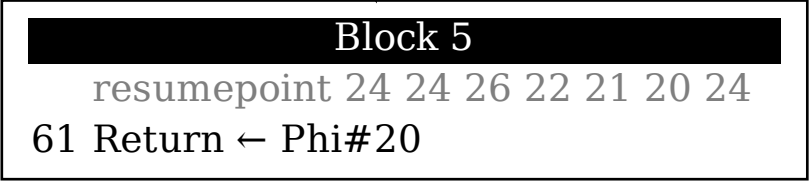
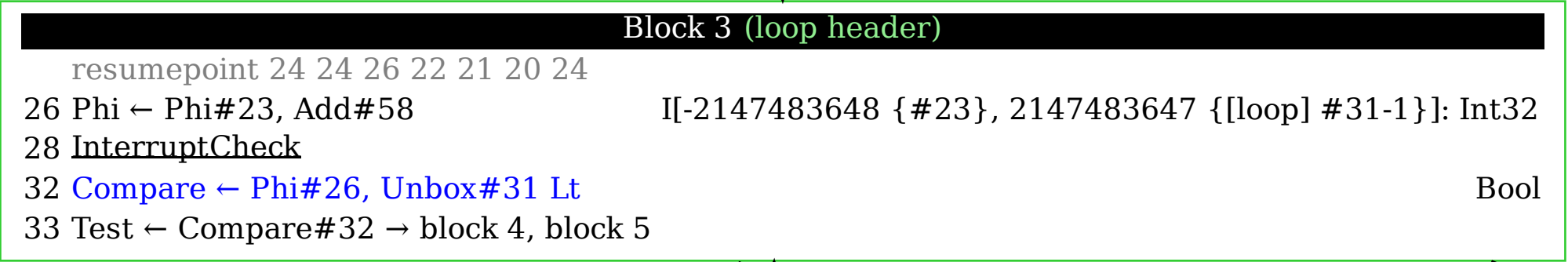
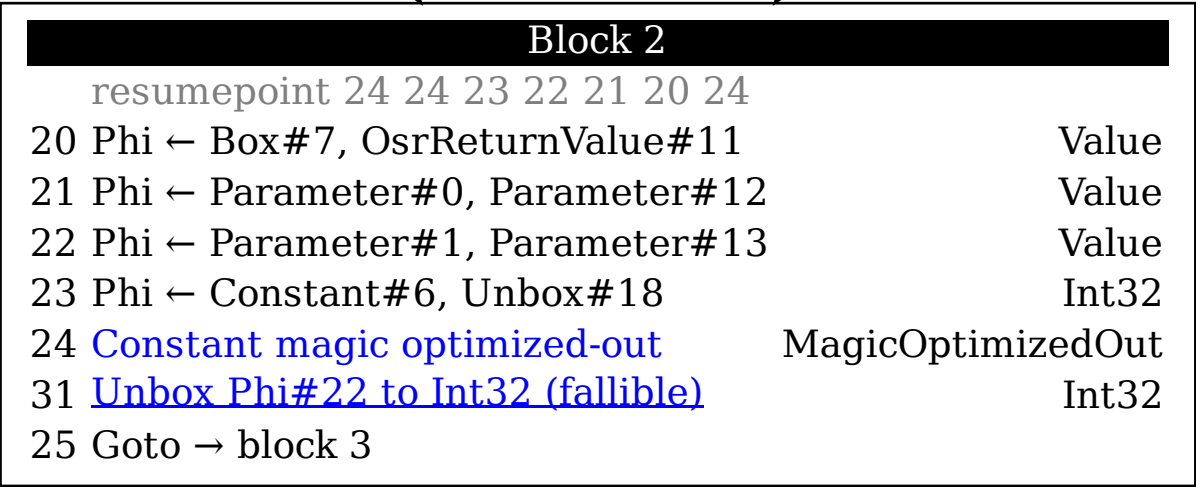
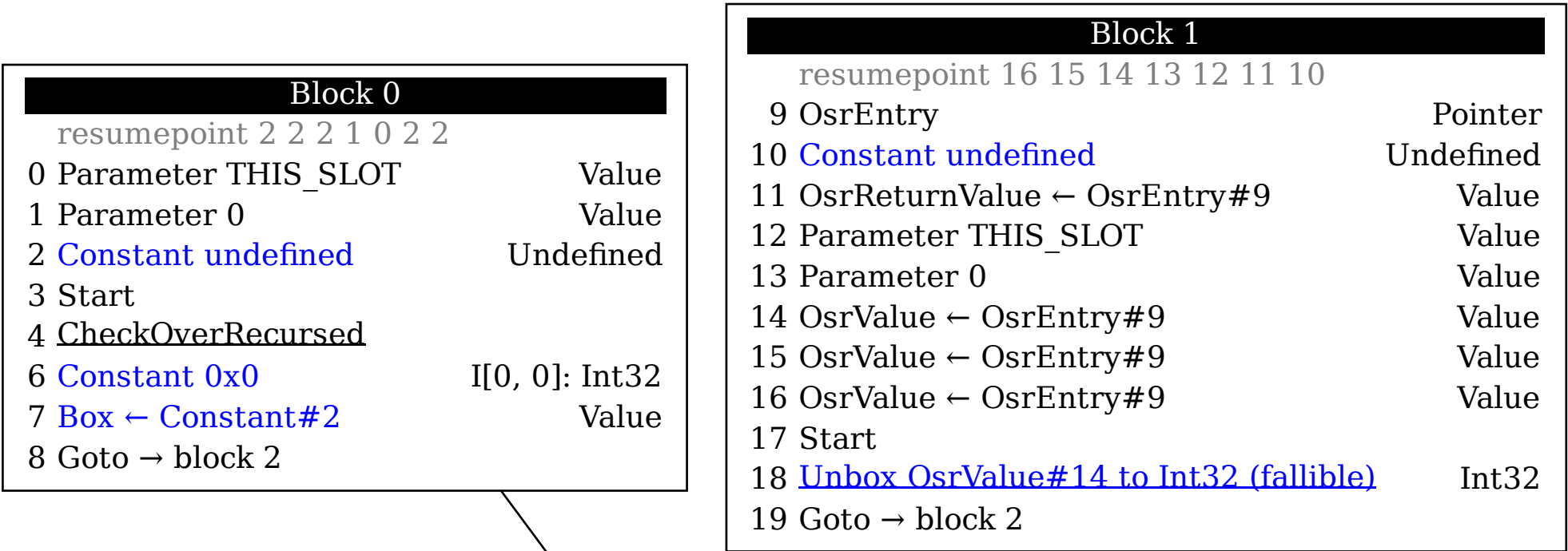
**Block 3 (loop header)**  
resumepoint 24 24 26 22 21 20 24  
26 Phi ← Phi#23, Add#58 I[-2147483648 {#23}, 2147483647 {[loop] #31-1}]: Int32  
28 InterruptCheck  
32 Compare ← Phi#26, Unbox#31 Lt Bool  
33 Test ← Compare#32 → block 4, block 5

**Block 4 (backedge)**  
resumepoint 24 24 26 22 21 20 24  
35 Constant magic uninitialized-lexical MagicUninitializedLexical  
36 Constant shape at 3fb4256fc20 Shape  
37 NewPlainObject ← Constant#36 Object  
38 Constant 0x0 I[0, 0]: Int32  
39 Constant string 3fb4252d780 String  
40 GuardShape ← NewPlainObject#37 Object  
memory 17  
41 Elements ← GuardShape#40 Elements  
memory 33  
42 StoreElementHole ← GuardShape#40, Elements#41, Constant#38, Constant#39  
43 Constant 0x1 I[1, 1]: Int32  
44 Constant string 3fb4252be60 String  
46 Elements ← GuardShape#40 Elements  
memory 42  
47 StoreElementHole ← GuardShape#40, Elements#46, Constant#43, Constant#44  
50 Elements ← GuardShape#40 Elements  
memory 47  
51 InitializedLength ← Elements#50 I[0, 268435444]: Int32  
memory 47  
52 BoundsCheck ← Constant#43, InitializedLength#51 I[1, 1]: Int32  
53 SpectreMaskIndex ← BoundsCheck#52, InitializedLength#51 I[1, 1]: Int32  
54 LoadElement ← Elements#50, SpectreMaskIndex#53 Value  
memory 47  
58 Add ← Phi#26, Constant#43 [int32] I[-2147483647, 2147483647]: Int32  
59 Goto → block 3

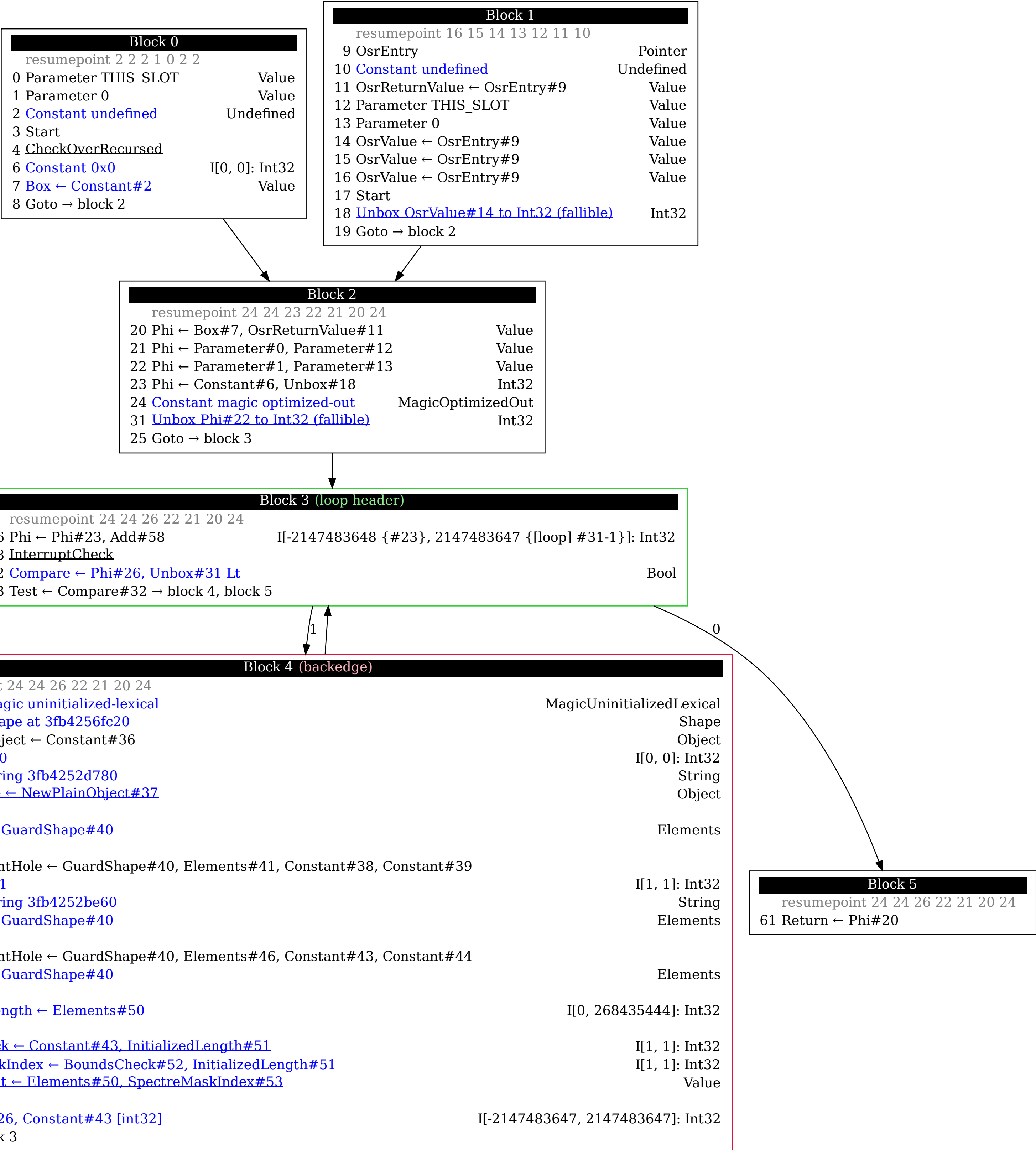
**Block 5**  
resumepoint 24 24 26 22 21 20 24  
61 Return ← Phi#20



**./Benchmarkers/prop\_access.js:2 - Sink**  
movable, guard, in worklist, recovered on bailout



./Benchmarks/prop\_access.js:2 - Remove Unnecessary Bitops  
movable, guard, in worklist, recovered on bailout



./Benchmarks/prop\_access.js:2 - Fold Linear Arithmetic Constants  
movable, guard, in worklist, recovered on bailout

**Block 0**  
resumepoint 2 2 2 1 0 2 2  
0 Parameter THIS\_SLOT Value  
1 Parameter 0 Value  
2 Constant undefined Undefined  
3 Start  
4 CheckOverRecursed  
6 Constant 0x0 I[0, 0]: Int32  
7 Box ← Constant#2 Value  
8 Goto → block 2

**Block 1**  
resumepoint 16 15 14 13 12 11 10  
9 OsrEntry Pointer  
10 Constant undefined Undefined  
11 OsrReturnValue ← OsrEntry#9 Value  
12 Parameter THIS\_SLOT Value  
13 Parameter 0 Value  
14 OsrValue ← OsrEntry#9 Value  
15 OsrValue ← OsrEntry#9 Value  
16 OsrValue ← OsrEntry#9 Value  
17 Start  
18 Unbox OsrValue#14 to Int32 (fallible) Int32  
19 Goto → block 2

**Block 2**  
resumepoint 24 24 23 22 21 20 24  
20 Phi ← Box#7, OsrReturnValue#11 Value  
21 Phi ← Parameter#0, Parameter#12 Value  
22 Phi ← Parameter#1, Parameter#13 Value  
23 Phi ← Constant#6, Unbox#18 Int32  
24 Constant magic optimized-out MagicOptimizedOut  
31 Unbox Phi#22 to Int32 (fallible) Int32  
25 Goto → block 3

**Block 3 (loop header)**  
resumepoint 24 24 26 22 21 20 24  
26 Phi ← Phi#23, Add#58 I[-2147483648 {#23}, 2147483647 {[loop] #31-1}]: Int32  
28 InterruptCheck  
32 Compare ← Phi#26, Unbox#31 Lt Bool  
33 Test ← Compare#32 → block 4, block 5

**Block 4 (backedge)**  
resumepoint 24 24 26 22 21 20 24  
35 Constant magic uninitialized-lexical MagicUninitializedLexical  
36 Constant shape at 3fb4256fc20 Shape  
37 NewPlainObject ← Constant#36 Object  
38 Constant 0x0 I[0, 0]: Int32  
39 Constant string 3fb4252d780 String  
40 GuardShape ← NewPlainObject#37 Object  
memory 17  
41 Elements ← GuardShape#40 Elements  
memory 33  
42 StoreElementHole ← GuardShape#40, Elements#41, Constant#38, Constant#39  
43 Constant 0x1 I[1, 1]: Int32  
44 Constant string 3fb4252be60 String  
46 Elements ← GuardShape#40 Elements  
memory 42  
47 StoreElementHole ← GuardShape#40, Elements#46, Constant#43, Constant#44  
50 Elements ← GuardShape#40 Elements  
memory 47  
51 InitializedLength ← Elements#50 I[0, 268435444]: Int32  
memory 47  
52 BoundsCheck ← Constant#43, InitializedLength#51 I[1, 1]: Int32  
53 SpectreMaskIndex ← BoundsCheck#52, InitializedLength#51 I[1, 1]: Int32  
54 LoadElement ← Elements#50, SpectreMaskIndex#53 Value  
memory 47  
58 Add ← Phi#26, Constant#43 [int32] I[-2147483647, 2147483647]: Int32  
59 Goto → block 3

**Block 5**  
resumepoint 24 24 26 22 21 20 24  
61 Return ← Phi#20



./Benchmarks/prop\_access.js:2 - Effective Address Analysis  
movable, guard, in worklist, recovered on bailout

Block 0

resumepoint 2 2 2 1 0 2 2

0 Parameter THIS\_SLOT

Value

1 Parameter 0

Value

2 Constant undefined

Undefined

3 Start

4 CheckOverRecursed

6 Constant 0x0

I[0, 0]: Int32

7 Box ← Constant#2

Value

8 Goto → block 2

Block 1

resumepoint 16 15 14 13 12 11 10

9 OsrEntry

Pointer

10 Constant undefined

Undefined

11 OsrReturnValue ← OsrEntry#9

Value

12 Parameter THIS\_SLOT

Value

13 Parameter 0

Value

14 OsrValue ← OsrEntry#9

Value

15 OsrValue ← OsrEntry#9

Value

16 OsrValue ← OsrEntry#9

Value

17 Start

18 Unbox OsrValue#14 to Int32 (fallible)

Int32

19 Goto → block 2

Block 2

resumepoint 24 24 23 22 21 20 24

20 Phi ← Box#7, OsrReturnValue#11

Value

21 Phi ← Parameter#0, Parameter#12

Value

22 Phi ← Parameter#1, Parameter#13

Value

23 Phi ← Constant#6, Unbox#18

Int32

24 Constant magic optimized-out

MagicOptimizedOut

31 Unbox Phi#22 to Int32 (fallible)

Int32

25 Goto → block 3

Block 3 (loop header)

resumepoint 24 24 26 22 21 20 24

26 Phi ← Phi#23, Add#58

I[-2147483648 {#23}, 2147483647 {[loop] #31-1}]: Int32

28 InterruptCheck

32 Compare ← Phi#26, Unbox#31 Lt

Bool

33 Test ← Compare#32 → block 4, block 5

Block 4 (backedge)

resumepoint 24 24 26 22 21 20 24

35 Constant magic uninitialized-lexical

MagicUninitializedLexical

36 Constant shape at 3fb4256fc20

Shape

37 NewPlainObject ← Constant#36

Object

38 Constant 0x0

I[0, 0]: Int32

39 Constant string 3fb4252d780

String

40 GuardShape ← NewPlainObject#37

Object

memory 17

41 Elements ← GuardShape#40

Elements

memory 33

42 StoreElementHole ← GuardShape#40, Elements#41, Constant#38, Constant#39

43 Constant 0x1

I[1, 1]: Int32

44 Constant string 3fb4252be60

String

46 Elements ← GuardShape#40

Elements

memory 42

47 StoreElementHole ← GuardShape#40, Elements#46, Constant#43, Constant#44

50 Elements ← GuardShape#40

Elements

memory 47

51 InitializedLength ← Elements#50

I[0, 268435444]: Int32

memory 47

52 BoundsCheck ← Constant#43, InitializedLength#51

I[1, 1]: Int32

53 SpectreMaskIndex ← BoundsCheck#52, InitializedLength#51

I[1, 1]: Int32

54 LoadElement ← Elements#50, SpectreMaskIndex#53

Value

memory 47

58 Add ← Phi#26, Constant#43 [int32]

I[-2147483647, 2147483647]: Int32

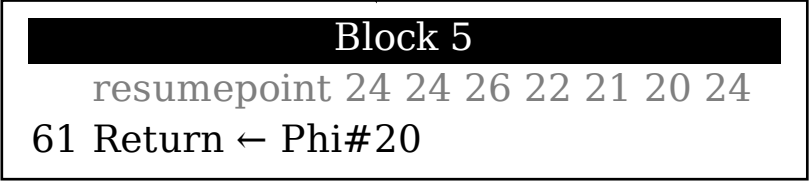
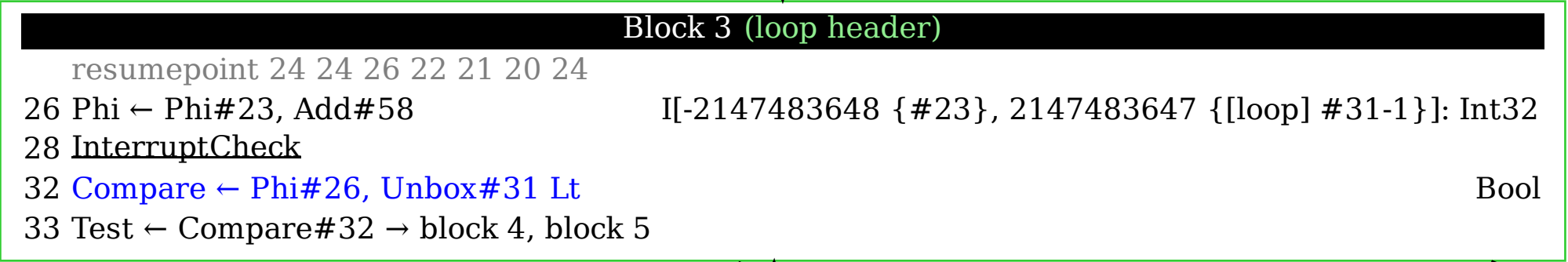
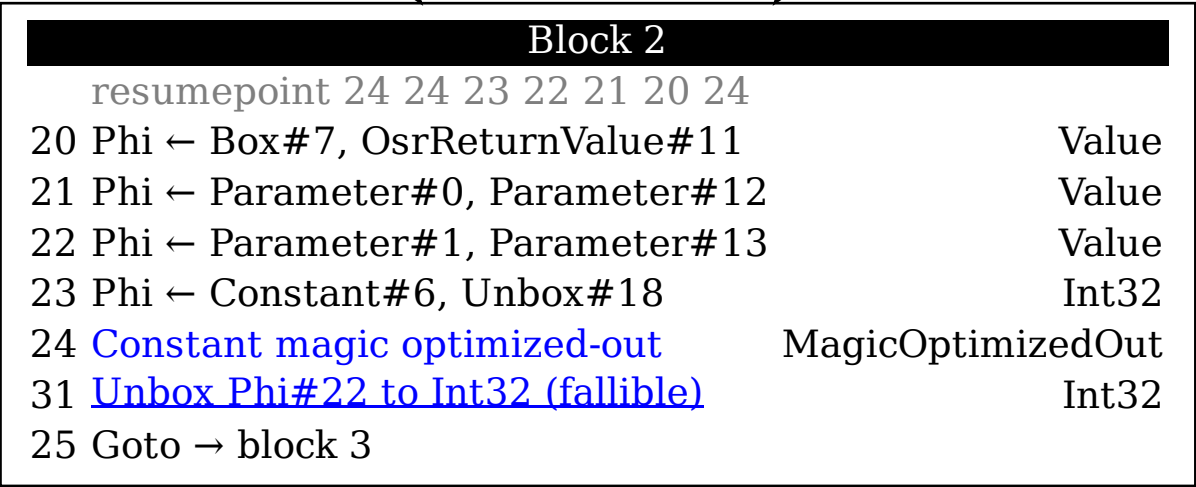
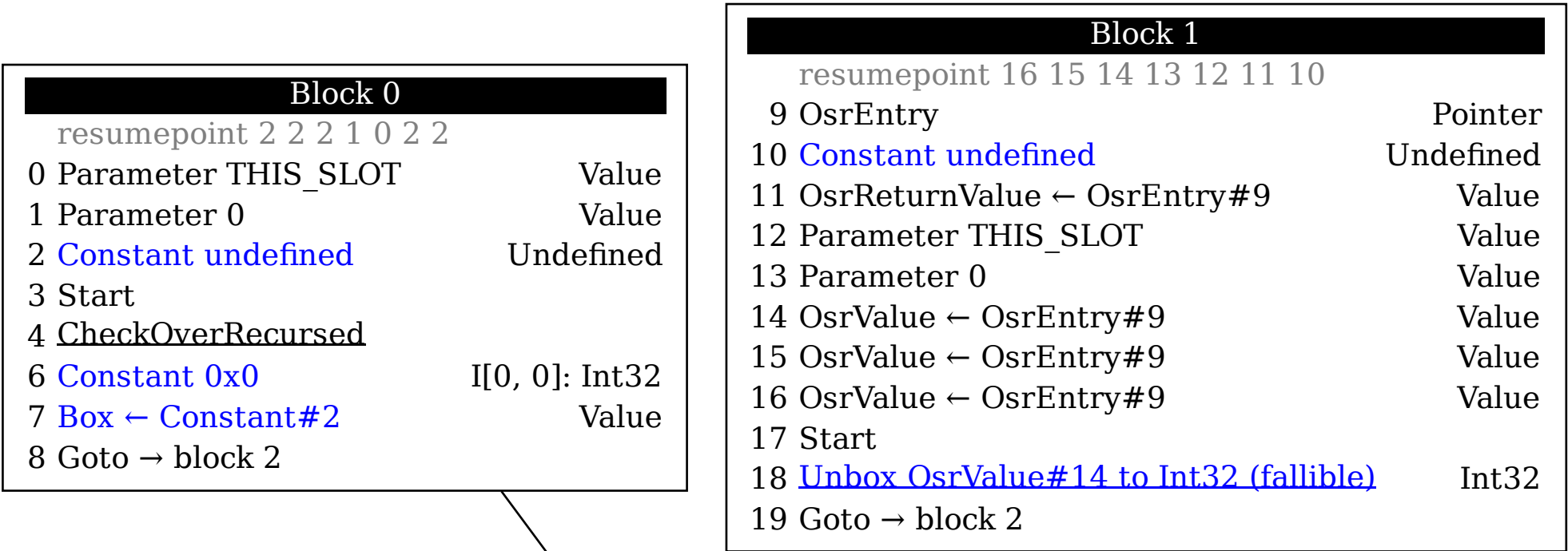
59 Goto → block 3

Block 5

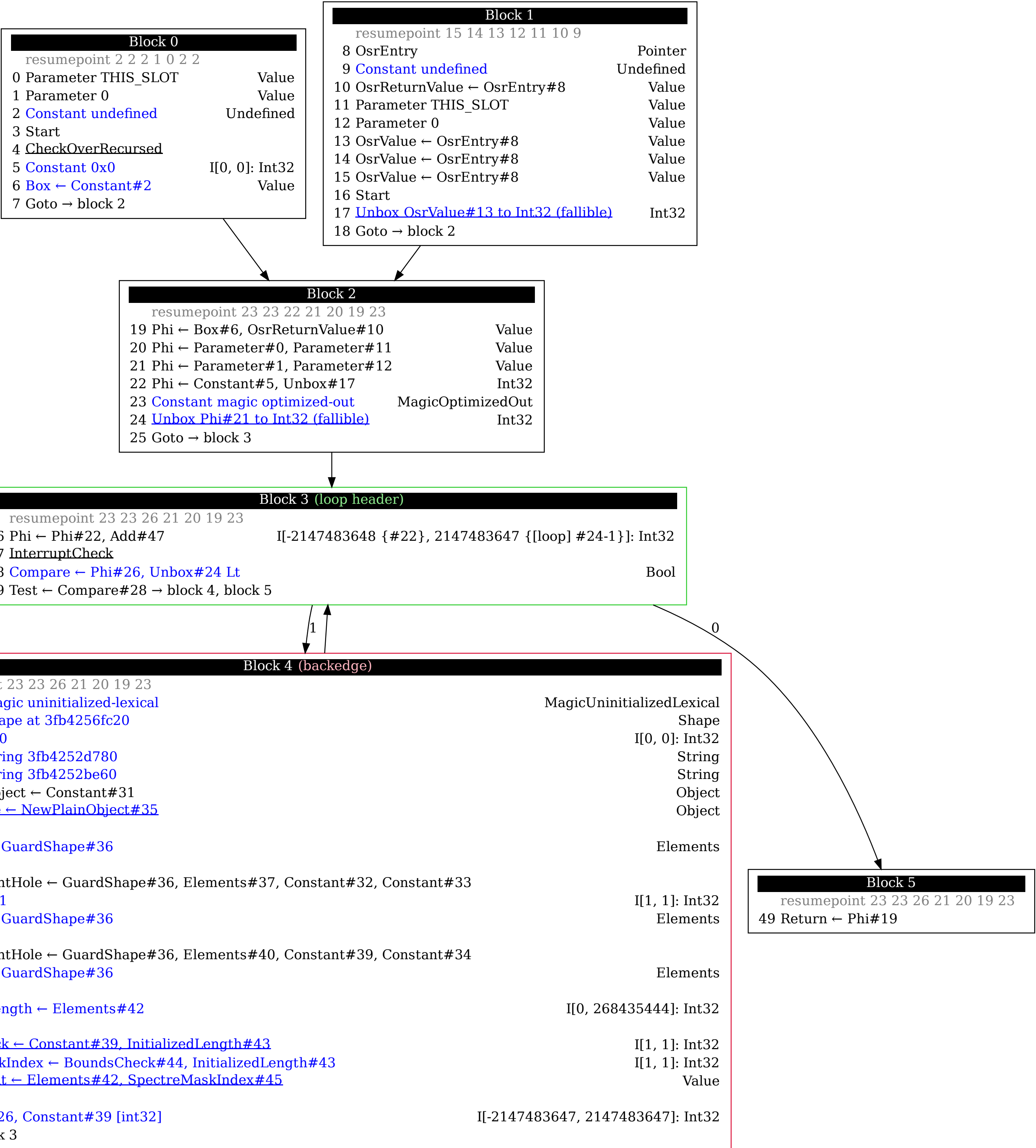
resumepoint 24 24 26 22 21 20 24

61 Return ← Phi#20

**./Benchmarks/prop\_access.js:2 - DCE**  
movable, guard, in worklist, recovered on bailout

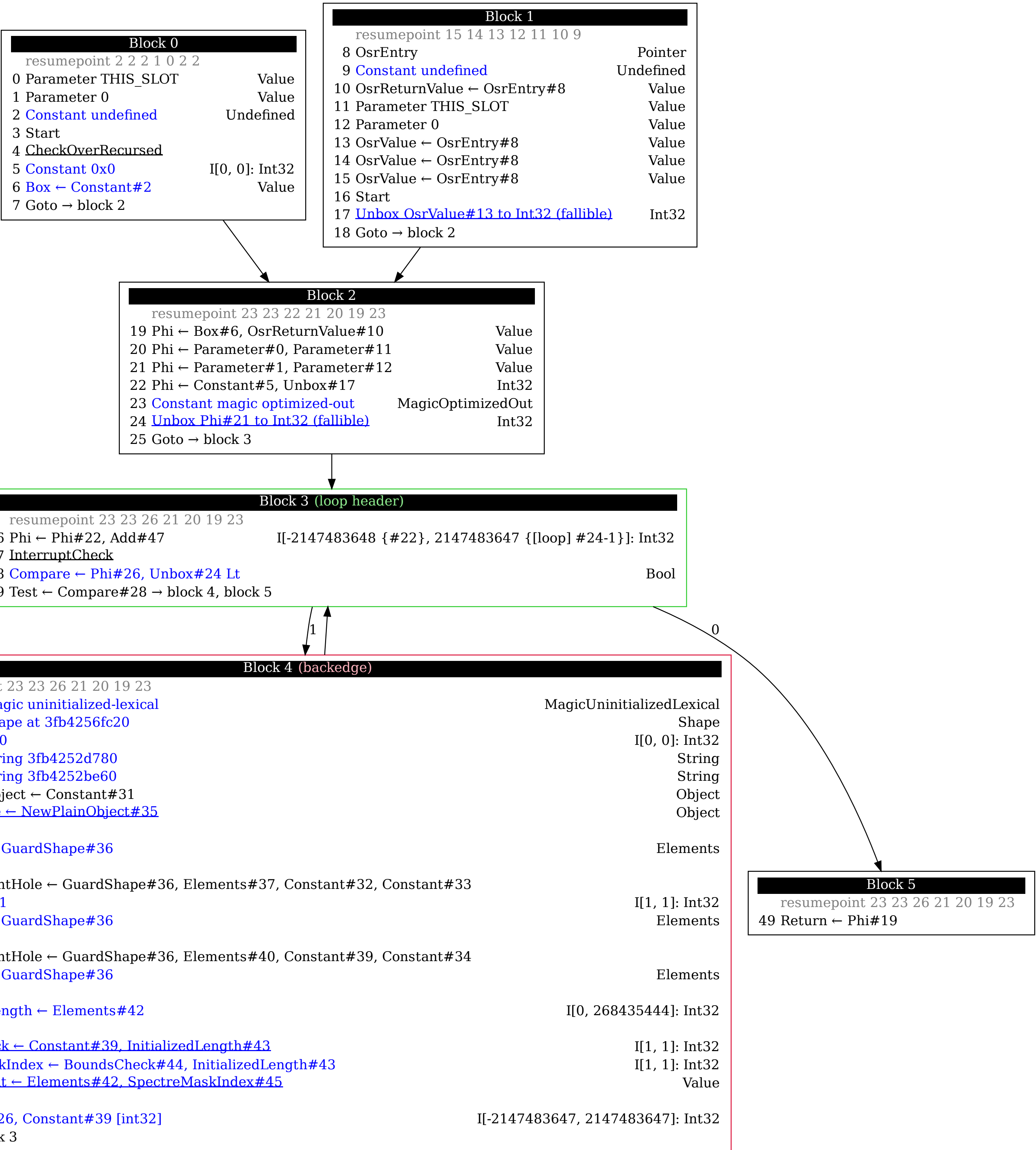


./Benchmarks/prop\_access.js:2 - Reordering  
movable, guard, in worklist, recovered on bailout

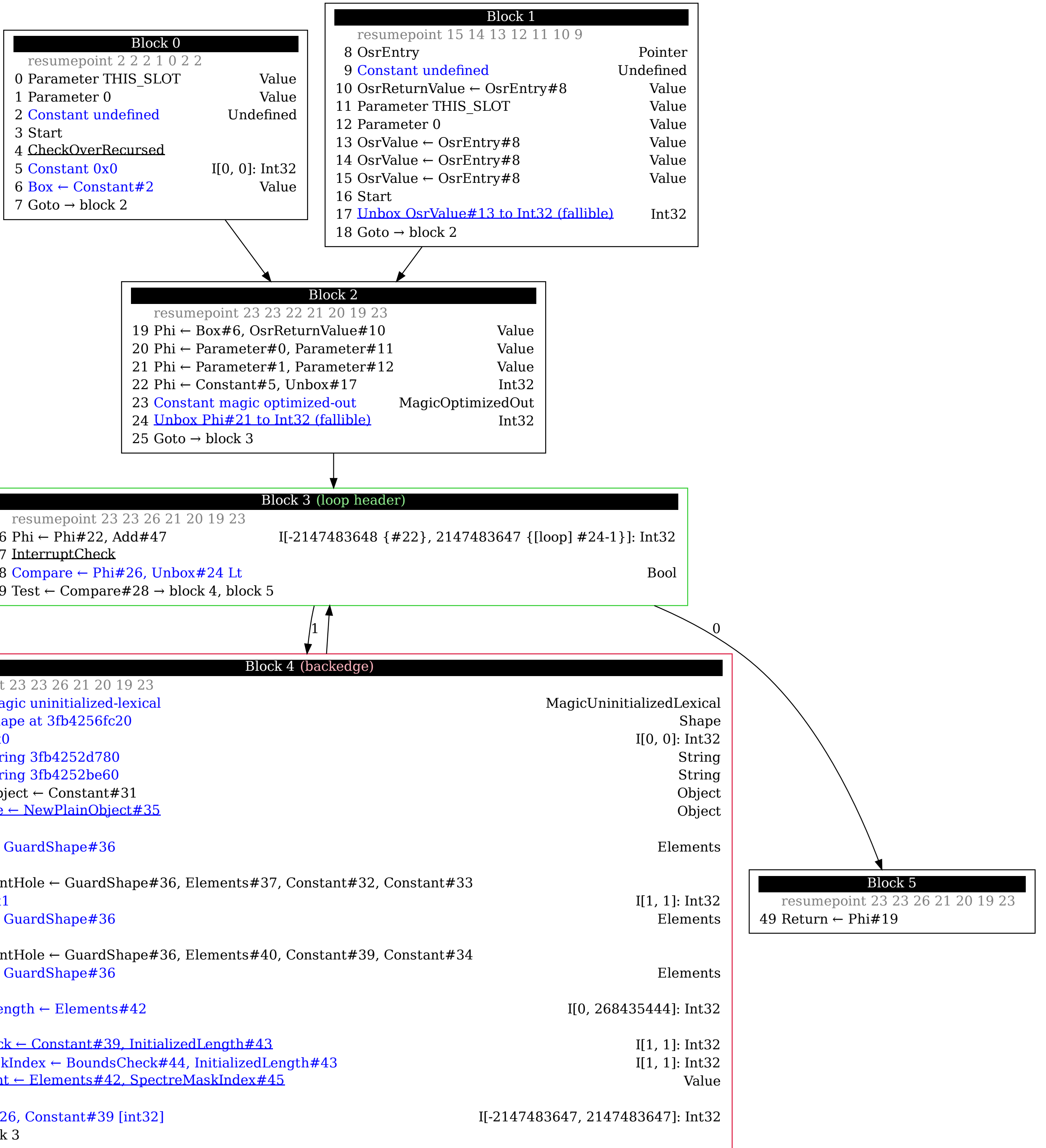




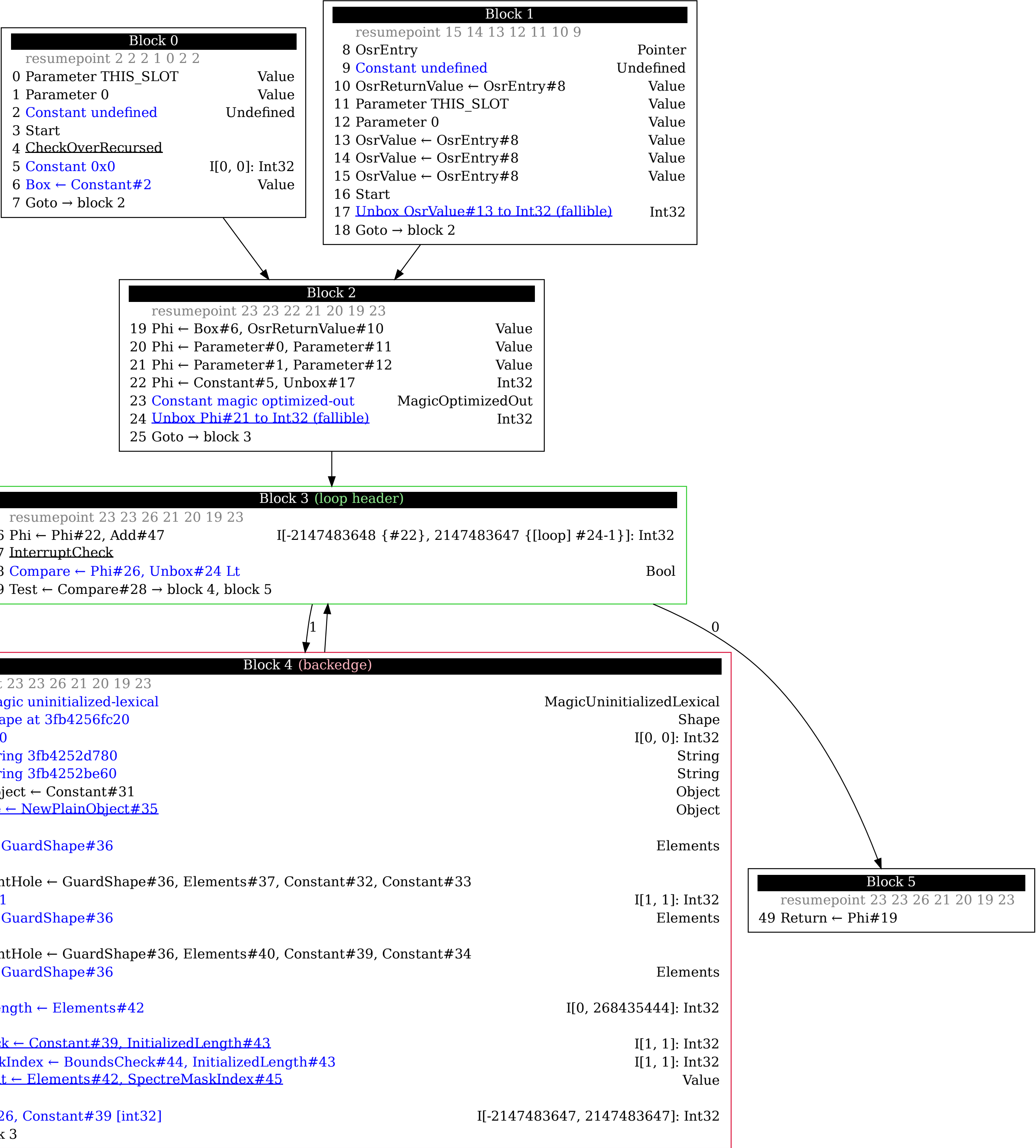
**./Benchmarks/prop\_access.js:2 - Make loops contiguous**  
movable, guard, in worklist, recovered on bailout



./Benchmarks/prop\_access.js:2 - Remove fake loop predecessors  
movable, guard, in worklist, recovered on bailout

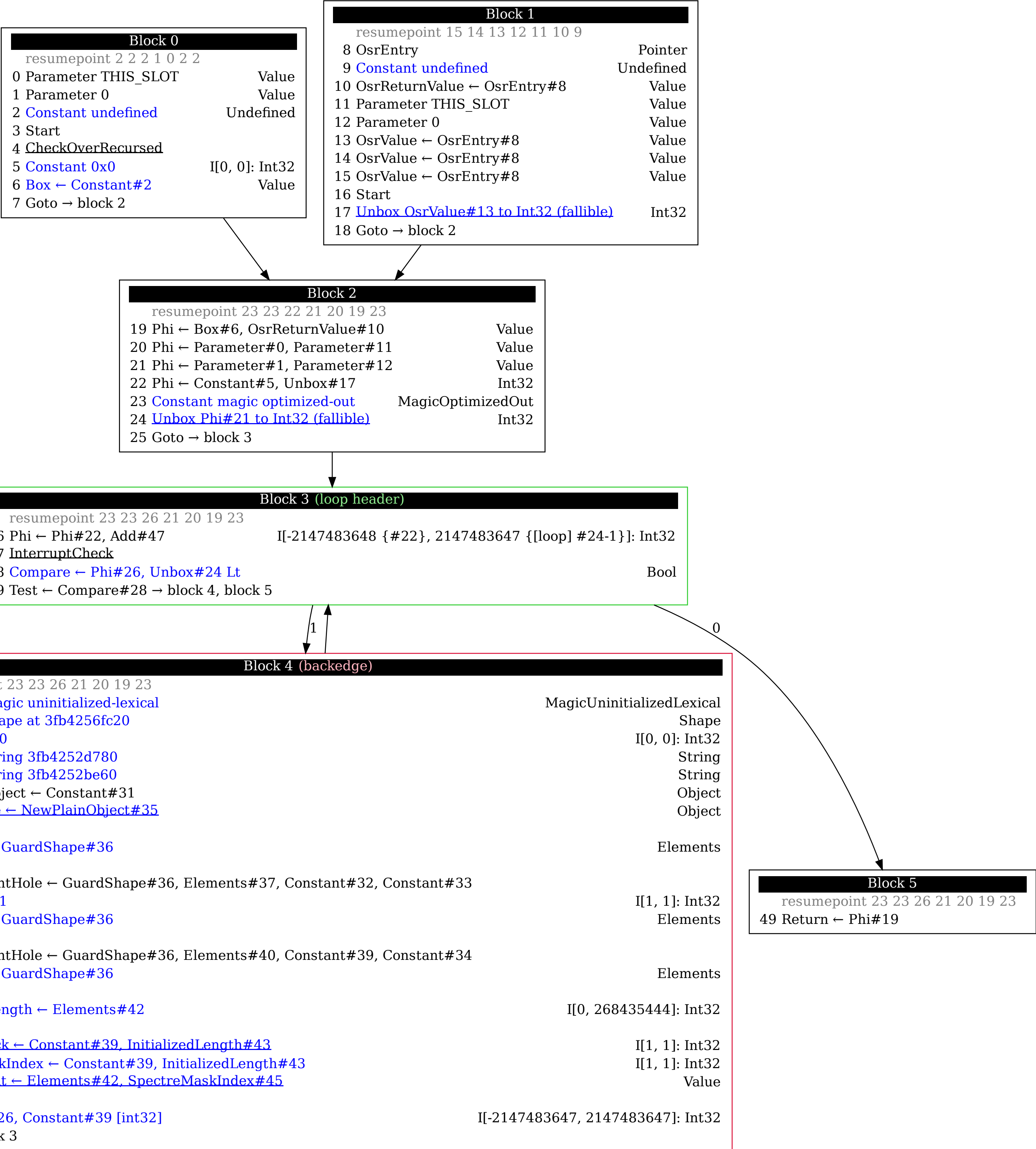


./Benchmarkers/prop\_access.js:2 - Edge Case Analysis (Late)  
movable, guard, in worklist, recovered on bailout





./Benchmarks/prop\_access.js:2 - Bounds Check Elimination  
movable, guard, in worklist, recovered on bailout



./Benchmarks/prop\_access.js:2 - Shape Guard Elimination  
movable, guard, in worklist, recovered on bailout

Block 0		
resumepoint 2 2 2 1 0 2 2		
0	Parameter THIS_SLOT	Value
1	Parameter 0	Value
2	Constant undefined	Undefined
3	Start	
4	CheckOverRecursed	
5	Constant 0x0	I[0, 0]: Int32
6	Box ← Constant#2	Value
7	Goto → block 2	

Block 1		
resumepoint 15 14 13 12 11 10 9		
8	OsrEntry	Pointer
9	Constant undefined	Undefined
10	OsrReturnValue ← OsrEntry#8	Value
11	Parameter THIS_SLOT	Value
12	Parameter 0	Value
13	OsrValue ← OsrEntry#8	Value
14	OsrValue ← OsrEntry#8	Value
15	OsrValue ← OsrEntry#8	Value
16	Start	
17	Unbox OsrValue#13 to Int32 (fallible)	Int32
18	Goto → block 2	

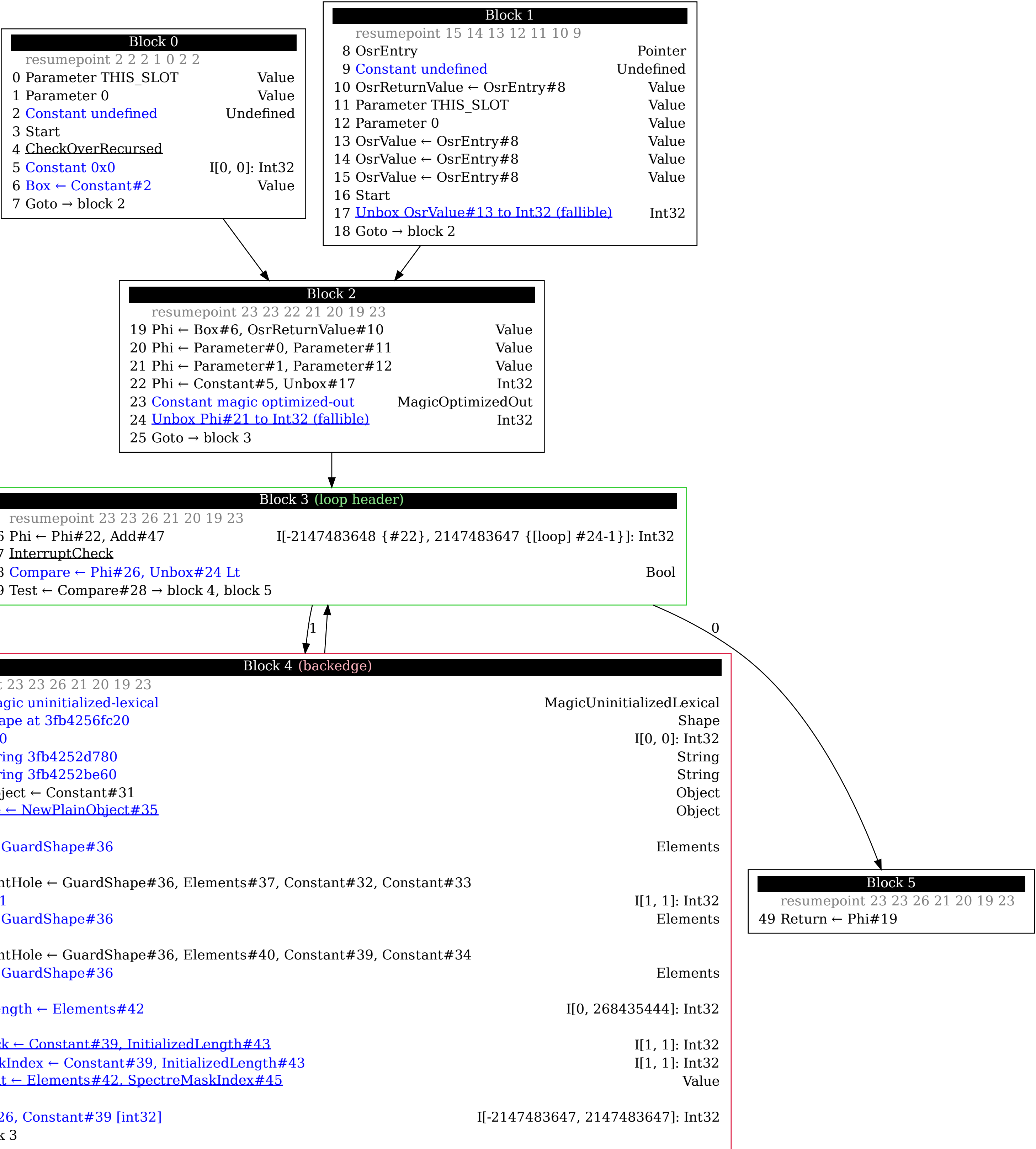
Block 2		
resumepoint 23 23 22 21 20 19 23		
19	Phi ← Box#6, OsrReturnValue#10	Value
20	Phi ← Parameter#0, Parameter#11	Value
21	Phi ← Parameter#1, Parameter#12	Value
22	Phi ← Constant#5, Unbox#17	Int32
23	Constant magic optimized-out	MagicOptimizedOut
24	Unbox Phi#21 to Int32 (fallible)	Int32
25	Goto → block 3	

Block 3 (loop header)		
resumepoint 23 23 26 21 20 19 23		
26	Phi ← Phi#22, Add#47	I[-2147483648 {#22}, 2147483647 {[loop] #24-1}]: Int32
27	InterruptCheck	
28	Compare ← Phi#26, Unbox#24 Lt	Bool
29	Test ← Compare#28 → block 4, block 5	

Block 4 (backedge)		
resumepoint 23 23 26 21 20 19 23		
30	Constant magic uninitialized-lexical	MagicUninitializedLexical
31	Constant shape at 3fb4256fc20	Shape
32	Constant 0x0	I[0, 0]: Int32
33	Constant string 3fb4252d780	String
34	Constant string 3fb4252be60	String
35	NewPlainObject ← Constant#31	Object
36	GuardShape ← NewPlainObject#35	Object
memory 16		
37	Elements ← GuardShape#36	Elements
memory 29		
38	StoreElementHole ← GuardShape#36, Elements#37, Constant#32, Constant#33	
39	Constant 0x1	I[1, 1]: Int32
40	Elements ← GuardShape#36	Elements
memory 38		
41	StoreElementHole ← GuardShape#36, Elements#40, Constant#39, Constant#34	
42	Elements ← GuardShape#36	Elements
memory 41		
43	InitializedLength ← Elements#42	I[0, 268435444]: Int32
memory 41		
44	BoundsCheck ← Constant#39, InitializedLength#43	I[1, 1]: Int32
45	SpectreMaskIndex ← Constant#39, InitializedLength#43	I[1, 1]: Int32
46	LoadElement ← Elements#42, SpectreMaskIndex#45	Value
memory 41		
47	Add ← Phi#26, Constant#39 [int32]	I[-2147483647, 2147483647]: Int32
48	Goto → block 3	

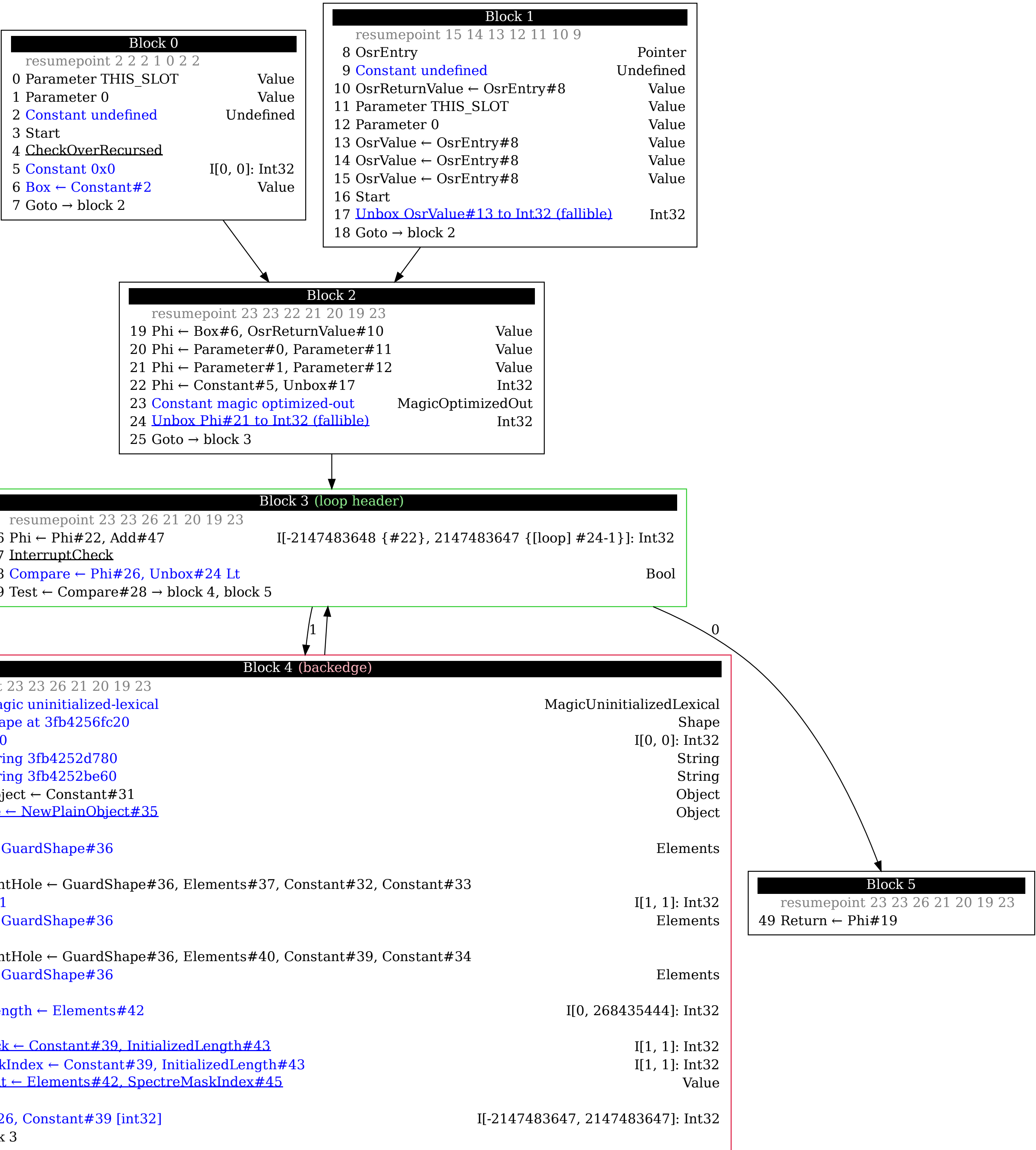
Block 5		
resumepoint 23 23 26 21 20 19 23		
49	Return ← Phi#19	

./Benchmarks/prop\_access.js:2 - GC Barrier Elimination  
movable, guard, in worklist, recovered on bailout





./Benchmarks/prop\_access.js:2 - FoldLoadsWithUnbox  
movable, guard, in worklist, recovered on bailout



./Benchmarks/prop\_access.js:2 - Add KeepAlive Instructions  
movable, guard, in worklist, recovered on bailout



**./Benchmarkers/prop\_access.js:2 - Generate LIR**  
**movable**, **guard**, **in worklist**, recovered on bailout

**Block 0**

```
1 {v1<x>:arg:0} ← parameter
2 {v2<x>:arg:8} ← parameter
3 checkoverrecursed
4 osipoint
5 {v3<x>} ← value
6 {v4<i>} ← integer (0)
7 goto s=(block 2)
```

**Block 1**

```
8 {v6<g>:rcx} ← osrentry t=(v5<g>)
9 {v7<x>} ← osrreturnvalue (v6:R)
10 {v8<x>:arg:0} ← parameter
11 {v9<x>:arg:8} ← parameter
12 {v10<x>} ← osrvalue (v6:R)
13 {v11<x>} ← osrvalue (v6:R)
14 {v12<x>} ← osrvalue (v6:R)
15 {v13<i>} ← unbox (v10:R)
16 goto s=(block 2)
```

**Block 2**

```
17 {v14<x>} ← phi (v3:A), (v7:A)
18 {v15<x>} ← phi (v1:A), (v8:A)
19 {v16<x>} ← phi (v2:A), (v9:A)
20 {v17<i>} ← phi (v4:A), (v13:A)
21 {v18<i>} ← unbox (v16:R)
22 goto s=(block 3)
```

**Block 3**

```
23 {v19<i>} ← phi (v17:A), (v41:A)
24 interruptcheck
25 osipoint
26 compareandbranch (v19:R), (v18:A) s=(block 4, block 5)
```

**Block 4**

```
27 {v23<o>} ← newplainobject t=(v20<g>, v21<g>, v22<g>)
28 osipoint
29 {v25<o>:tied(0)} ← guardshape (v23:R) t=(v24<g>)
30 {v26<s>} ← elements (v25:R)
31 {v27<i>} ← integer (0)
32 storeelementholet (v25:R), (v26:R), (v27:R), (string) t=(v28<g>)
33 osipoint
34 {v29<s>} ← elements (v25:R)
35 {v30<i>} ← integer (1)
36 storeelementholet (v25:R), (v29:R), (v30:R), (string) t=(v31<g>)
37 osipoint
38 {v32<s>} ← elements (v25:R)
39 debugentergcunsaferegion t=(v33<g>)
40 debugentergcunsaferegion t=(v34<g>)
41 {v35<i>} ← initializedlength (v32:R)
42 debugleavegcunsaferegion t=(v36<g>)
43 boundscheck (1), (v35:A)
44 {v37<i>} ← integer (1)
45 {v38<i>} ← spectremaskindex (v37:R), (v35:A)
46 {v39<x>} ← loadelementv (v32:R), (v38:R)
47 debugleavegcunsaferegion t=(v40<g>)
48 {v41<i>:tied(0)} ← addi (v19:R), (1)
49 goto s=(block 3)
```

**Block 5**

```
50 return (v14:F:rcx)
```

# ./Benchmarks/prop\_access.js:2 - Allocate Registers [Backtracking]

movable, guard, in worklist, recovered on bailout

