		Block 1	
Block 0	resumepoint 14		
resumepoint 2 2 2 1 0 2 2	7 OsrEntry	Pointer	
0 Parameter THIS SLOT Value	8 Constant undefin		
1 Parameter 0 Value	9 OsrReturnValue		
2 Constant undefined Undefined	10 Parameter THIS	v	
3 Start	11 Parameter 0	Value	
4 CheckOverRecursed	12 OsrValue ← OsrE		
5 Constant magic uninitialized-lexical MagicUninitializedLexical	13 OsrValue ← OsrE		
6 Constant 0x0 Int32	14 OsrValue ← OsrE		
$16 \text{ Goto} \rightarrow \text{block } 2$	15 Start	3	
	17 Goto \rightarrow block 2		
Block 2]	
resumepoint 24 23 22 21 20	19 18		
18 Phi ← Constant#2, Constant			
19 Phi ← Constant#2, OsrRetur			
20 Phi ← Parameter#0, Parame			
20 Fin ← Parameter#0, Parame 21 Phi ← Parameter#1, Parame			
21 Thi ← Tarameter#1, Tarame 22 Phi ← Constant#6, OsrValue			
23 Phi ← Constant#2, OsrValue			
24 Phi ← Constant#2, OsrValue 32 Goto → block 3	e#14 Value		
32 Goto → block 3			
Block 3 (loop he			
resumepoint 31 30 29 28 2			
25 Phi ← Phi#18, Phi#18	Value		
26 Phi ← Phi#19, Phi#19	Value		
27 Phi ← Phi#20, Phi#20	Value		
28 Phi ← Phi#21, Phi#21	Value		
29 Phi ← Phi#22, Add#58	Value		
30 Phi ← Phi#23, NewPlainOl			
31 Phi ← Phi#24, LoadElemen	nt#55 Value		
33 <u>InterruptCheck</u> 34 <u>Unbox Phi#29 to Int32 (fa</u>	nllible) Int32		
35 <u>Unbox Phi#28 to Int32 (fa</u>	· · · · · · · · · · · · · · · · · · ·		
36 Compare ← Unbox#34, Un	· ·		
37 Test ← Compare#36 → blo			
	7 - 7 - 7 - 7 - 7 - 7 - 7 - 7 - 7 - 7 -		
/ ₁ T		0	
Block 4 (backedge			
resumepoint 31 30 29 28 27 26 25		_	
38 Constant magic uninitialized-lexical	N	MagicUninitializedLexical	
39 Constant shape at 119e3d16fc20		Shape	
40 NewPlainObject ← Constant#39		Object	
41 Constant 0x1		Int32	
42 Constant string 119e3d12be60		String	
43 SetPropertyCache ← NewPlainObject#40, Constant#41, Cons	stant#42		
44 Constant 0x2		Int32	
45 Constant string 119e3d12d780		String	
46 GuardShape ← NewPlainObject#40		Object	Block 5
47 Elements ← GuardShape#46		Elements	resumepoint 31 30 29 28 27 26 25
48 StoreElementHole ← GuardShape#46, Elements#47, Constar	nt#44, Constant#45	* : 22	60 Return ← Phi#26
49 Constant 0x1 50 CuardShape - NewPlainObject#40		Int32	
50 GuardShape ← NewPlainObject#40		Object	
51 Elements ← GuardShape#50 52 InitializedLength ← Elements #51		Elements	
52 InitializedLength ← Elements#51 53 BoundsCheck ← Constant#49, InitializedLength#52		Int32 Int32	
54 SpectreMaskIndex ← BoundsCheck#53, InitializedLength#52)	Int32 Int32	
55 LoadElement ← Elements#51, SpectreMaskIndex#54	•	Value	
56 Unbox Phi#29 to Int32 (fallible)		Int32	
57 Constant 0x1		Int32	
58 Add ← Unbox#56, Constant#57 [int32]		Int32	
59 Goto → block 3			

 $59 \text{ Goto} \rightarrow \text{block } 3$

./Benchmarkers/prop_access.js:1 - Prune Unused Branches movable, guard, in worklist, recovered on bailout

	guard, in worklist, recovered on banout
	Block 1
Block 0	resumepoint 14 13 12 11 10 9 8
resumepoint 2 2 2 1 0 2 2	7 OsrEntry Pointer
	alue 8 Constant undefined Undefined alue 9 OsrReturnValue ← OsrEntry#7 Value
2 Constant undefined Undefin	
3 Start	11 Parameter 0 Value Value
4 <u>CheckOverRecursed</u>	11 Farameter 0 Value 12 OsrValue ← OsrEntry#7 Value
5 Constant magic uninitialized-lexical MagicUninitializedLexical Constant 0x0 In	
6 Goto → block 2	nt32 14 OsrValue ← OsrEntry#7 Value 15 Start
0 G0t0 → Dlock 2	
	17 GOLO - DIOCK 2
Bl	lock 2
resumepoint 24 23 22	
18 Phi ← Constant#2, Co	
19 Phi ← Constant#2, Os	
20 Phi ← Parameter#0, I	
21 Phi ← Parameter#1, I	
$22 \text{ Phi} \leftarrow \text{Constant#6, Os}$	
$23 \text{ Phi} \leftarrow \text{Constant#0, Os}$	
$24 \text{ Phi} \leftarrow \text{Constant#2, Os}$	
$32 \text{ Goto} \rightarrow \text{block } 3$	si varao
3 2 3303 313011 3	
Block 3 (loop header)
resumepoint 31 30	
25 Phi ← Phi#18, Phi#	
26 Phi ← Phi#19, Phi#	
27 Phi ← Phi#20, Phi#	
28 Phi ← Phi#21, Phi#	
29 Phi ← Phi#22, Add₹	
30 Phi ← Phi#23, New	
31 Phi ← Phi#24, Load	
33 InterruptCheck	
34 <u>Unbox Phi#29 to In</u>	nt32 (fallible) Int32
35 <u>Unbox Phi#28 to Ir</u>	
36 Compare ← Unbox#	
37 Test ← Compare#3	
	
\int_{-1}^{1}	0
Block 4 (back	ckedge)
resumepoint 31 30 29 28 27 26 25	
38 Constant magic uninitialized-lexical	Magic Uninitial ized Lexical
39 Constant shape at 119e3d16fc20	Shape
40 NewPlainObject ← Constant#39	Object
41 Constant 0x1	Int32
42 Constant string 119e3d12be60	String
43 SetPropertyCache ← NewPlainObject#40, Constant#4	-1, Constant#42
44 Constant 0x2	Int32
45 Constant string 119e3d12d780	String
46 GuardShape ← NewPlainObject#40	Object
47 Elements ← GuardShape#46	Elements
48 StoreElementHole ← GuardShape#46, Elements#47, 0	Constant#44, Constant#45
49 Constant 0x1	Int32
50 GuardShape ← NewPlainObject#40	Object
51 Elements ← GuardShape#50	Elements
52 InitializedLength ← Elements#51	Int32
53 BoundsCheck \leftarrow Constant#49, InitializedLength#52	Int32
54 SpectreMaskIndex ← BoundsCheck#53, InitializedLeng	gth#52 Int32
55 LoadElement ← Elements#51, SpectreMaskIndex#54	
56 Unbox Phi#29 to Int32 (fallible)	Int32

56 Unbox Phi#29 to Int32 (fallible)

58 Add \leftarrow Unbox#56, Constant#57 [int32]

57 Constant 0x1

59 Goto \rightarrow block 3

Block 5 resumepoint 31 30 29 28 27 26 25 $Return \leftarrow Phi\#26$

Int32

Int32

Int32

./Benchmarkers/prop_access.js:1 - Fold Empty Blocks movable, guard, in worklist, recovered on bailout

			DI 1.4
		rocumonaint 1/	Block 1
Block (resumepoint 2 2 2 1 0 2 2		resumepoint 14 7 OsrEntry	Pointer
0 Parameter THIS SLOT	Value	8 Constant undefin	
1 Parameter 0	Value	9 OsrReturnValue	
2 Constant undefined	Undefined	10 Parameter THIS	<u> </u>
3 Start		11 Parameter 0	- Value
1 CheckOverRecursed		12 OsrValue ← OsrI	Entry#7 Value
5 Constant magic uninitialized-lexi		13 OsrValue ← OsrI	o
6 Constant 0x0	Int32	14 OsrValue ← OsrI	Entry#7 Value
6 Goto → block 2		15 Start 17 Goto → block 2	
		17 Goto - Diock 2	
	Block 2		
	resumepoint 24 23 22 21 20	19 18	
	18 Phi ← Constant#2, Constant		
	19 Phi ← Constant#2, OsrRetur	rnValue#9 Value	
	20 Phi ← Parameter#0, Parame		
	21 Phi ← Parameter#1, Parame		
	22 Phi ← Constant#6, OsrValue 23 Phi ← Constant#2, OsrValue		
	24 Phi ← Constant#2, OsrValue		
	$32 \text{ Goto} \rightarrow \text{block } 3$	#14 Value	
	Block 3 (loop he	ader)	
	resumepoint 31 30 29 28 2	27 26 25	
	25 Phi ← Phi#18, Phi#18	Value	
	26 Phi ← Phi#19, Phi#19	Value	
	27 Phi ← Phi#20, Phi#20 28 Phi ← Phi#21, Phi#21	Value Value	
	29 Phi ← Phi#22, Add#58	Value	
	$30 \text{ Phi} \leftarrow \text{Phi} # 23, \text{ NewPlainO}$		
	31 Phi ← Phi#24, LoadEleme		
	33 InterruptCheck		
	34 Unbox Phi#29 to Int32 (fa		
	35 Unbox Phi#28 to Int32 (fa	· ·	
	36 Compare ← Unbox#34, Ur 37 Test ← Compare#36 → blo		
	37 Test Compare #30 7 Bio	on 1, brook 5	
	 1 T		0
	<u> </u>		
resumepoint 31 30 29 28 27	Block 4 (backedge		
38 Constant magic uninitialized]	MagicUninitializedLexical
39 Constant shape at 119e3d16			Shape
40 NewPlainObject ← Constant:	#39		Object
41 Constant 0x1			Int32
42 Constant string 119e3d12be		-11 440	String
	ainObject#40, Constant#41, Cons	stant#42	I~+OO
44 Constant 0x2 45 Constant string 119e3d12d7	780		Int32 String
46 GuardShape ← NewPlainObj			Object
47 Elements ← GuardShape#46			Elements
_	Shape#46, Elements#47, Constar	nt#44, Constant#45	
49 Constant 0x1			Int32
50 GuardShape ← NewPlainObj			Object
51 Elements ← GuardShape#50			Elements
52 InitializedLength ← Element 53 RoundsChook ← Constant #4			Int32
53 BoundsCheck ← Constant#4 54 SpectreMaskIndex ← Bounds	9, InitializedLengtn#52 sCheck#53, InitializedLength#52)	Int32 Int32
54 SpectreMaskindex ← Bounds 55 LoadElement ← Elements#5			Value
56 Unbox Phi#29 to Int32 (falli			Int32
57 Constant 0x1	•		Int32
	# E E :		

58 Add \leftarrow Unbox#56, Constant#57 [int32]

59 Goto \rightarrow block 3

Block 5 resumepoint 31 30 29 28 27 26 25 60 Return ← Phi#26

Int32

					1
			Block 1		
Block 0		resumepoint 14	13 12 11 10 9 8		
resumepoint 2 2 2 1 0 2 2		7 OsrEntry		Pointer	
0 Parameter THIS_SLOT	Value	8 Constant undefin		Undefined	
1 Parameter 0	Value	9 OsrReturnValue	o	Value	
2 Constant undefined	Undefined	10 Parameter THIS	_SLOT	Value	
3 Start		11 Parameter 0	_	Value	
4 CheckOverRecursed		12 OsrValue ← OsrE	•	Value	
5 Constant magic uninitialized-lexical MagicUnin		13 OsrValue ← OsrE	· ·	Value	
6 Constant 0x0	Int32	14 OsrValue ← OsrE	Entry#7	Value	
16 Goto → block 2		15 Start			
		17 Goto \rightarrow block 2			
	4		_		
	Block 2				
resumepo	int 24 23 22 21 20	0 19 18			
18 Phi ← Con	stant#2, Constant	t#8 Undefined			
	stant#2, OsrRetu				
	ameter#0, Parame				
	ameter#1, Parame				
	stant#6, OsrValue				
	stant#2, OsrValue				
	stant#2, OsrValue				
$32 \text{ Goto} \rightarrow \text{blow}$		on in value			
32 G0t0 7 DI			J		
	1				
	Dlagle 2 (lage b	and an)			
	Block 3 (loop he				
	point 31 30 29 28				
	hi#18, Phi#18	Value			
	hi#19, Phi#19	Value			
	hi#20, Phi#20	Value			
	hi#21, Phi#21	Value			
	hi#22, Add#58	Value			
	hi#23, NewPlainO	ū			
	hi#24, LoadEleme	ent#55 Value			
33 Interrup		allibla) I122			
	Phi#29 to Int32 (fa				
	Phi#28 to Int32 (fa	· ·			
	e ← Unbox#34, U				
37 Test ← (Compare#36 → blo	OCK 4, DIOCK 5			
	1				
	\perp			V	
	Plook 4 (backedge	<u></u>			
	Block 4 (backedge				
resumepoint 31 30 29 28 27 26 25 38 Constant magic uninitialized-lexical		N	MagicUninitializ	odI ovical	
39 Constant shape at 119e3d16fc20		ľ	-ragio O minitaliz	Shape	
40 NewPlainObject ← Constant#39				Object	
41 Constant 0x1				Int32	
42 Constant string 119e3d12be60				String	
43 SetPropertyCache ← NewPlainObject#40,	Constant#41 Con	stant#17		Juliy	
43 Setrioperty Cache \leftarrow New Flam Object #40, $\sqrt{44 \text{ Constant } 0x2}$	Jonotant#41, CUII	.ο.ωιοπ τ Δ		Int32	
45 Constant string 119e3d12d780				String	
46 GuardShape ← NewPlainObject#40				Object	\
47 Elements ← GuardShape#46				Elements	Block 5
48 StoreElementHole ← GuardShape#46, ElementHole	nents#47 Consta	nt#44 Constant#45			resumepoint 31 30 29 28 27 26 25
49 Constant 0x1		11, Oonstant#40		Int32	60 Return ← Phi#26
50 GuardShape ← NewPlainObject#40				Object	<u> </u>
51 Elements ← GuardShape#50				Elements	
52 InitializedLength ← Elements#51				Int32	
53 BoundsCheck ← Constant#49, InitializedLe	ngth#52			Int32	
54 SpectreMaskIndex ← BoundsCheck#53, Ini		2		Int32	
55 LoadElement ← Elements#51, SpectreMas	•			Value	
56 Unbox Phi#29 to Int32 (fallible)				Int32	
57 Constant 0x1				Int32	
58 Add ← Unbox#56, Constant#57 [int32]				Int32	
$59 \text{ Goto} \rightarrow \text{block } 3$				111002	

		Blo	ck 1	
Bloc	k 0	resumepoint 14 13 1		
resumepoint 2 2 2 1 0 2 2		7 OsrEntry	Pointer	
Parameter THIS_SLOT	Value	8 Constant undefined	Undefined	
Parameter 0	Value	9 OsrReturnValue ← O	J	
2 Constant undefined	Undefined	10 Parameter THIS_SLO		
3 Start 4 <u>CheckOverRecursed</u>		11 Parameter 0	Value	
	ovicel MagicUninitializedLevicel	12 OsrValue ← OsrEntr		
	exical MagicUninitializedLexical	13 OsrValue ← OsrEntr		
S Constant 0x0 S Goto → block 2	Int32	14 OsrValue ← OsrEntr	y#7 Value	
GOTO → DIOCK Z		17 Goto \rightarrow block 2		
		17 GOLO - DIOCK 2		
	Block 2			
	resumepoint 24 23 22 21 20	19 18		
	18 Phi ← Constant#2, Constant			
	19 Phi ← Constant#2, OsrRetui			
	20 Phi ← Parameter#0, Parame			
	21 Phi ← Parameter#1, Parame			
	22 Phi ← Constant#6, OsrValue			
	23 Phi \leftarrow Constant#0, OsrValue			
	24 Phi ← Constant#2, OsrValue 32 Goto → block 3	y#14 value		
	32 Goto - block 3			
	\downarrow			
	Block 3 (loop he	eader)		
	resumepoint 31 30 29 28	27 26 25		
	25 Phi ← Phi#18, Phi#18	Value		
	26 Phi ← Phi#19, Phi#19	Value		
	27 Phi ← Phi#20, Phi#20	Value		
	28 Phi ← Phi#21, Phi#21	Value		
	29 Phi ← Phi#22, Add#58	Value		
	30 Phi ← Phi#23, NewPlainO	bject#40 Value		
	31 Phi ← Phi#24, LoadEleme	5		
	33 InterruptCheck			
	34 Unbox Phi#29 to Int32 (fa	allible) Int32		
	35 Unbox Phi#28 to Int32 (fa			
	36 Compare ← Unbox#34, Un			
	37 Test ← Compare#36 → blo			
	$1 \mid$		0	
	Block 4 (backedge			
resumepoint 31 30 29 28		,		
38 Constant magic uninitializ	ced-lexical	Mag	icUninitializedLexical	
39 Constant shape at 119e3d	l16fc20		Shape	
40 NewPlainObject ← Consta	nt#39		Object	
41 Constant 0x1			Int32	
42 Constant string 119e3d12	be60		String	
	PlainObject#40, Constant#41, Cons	stant#42		
44 Constant 0x2	,		Int32	
45 Constant string 119e3d12	:d780		String	
46 GuardShape ← NewPlainC			Object	
47 Elements ← GuardShape#			Elements	Block
_	rdShape#46, Elements#47, Consta	nt#44, Constant#45		resumepoint 31 30
49 Constant 0x1	<u> </u>	,	Int32	60 Return ← Phi#26
50 GuardShape ← NewPlainC	Object#40		Object	
51 Elements ← GuardShape#	_		Elements	
52 InitializedLength ← Eleme			Int32	
53 BoundsCheck ← Constant			Int32	
	ndsCheck#53, InitializedLength#52).	Int32	
55 LoadElement ← Elements	_	•	Value	
56 Unbox Phi#29 to Int32 (fa			Int32	
56 Onbox Fin#29 to mt.32 (18) 57 Constant 0x1	шик.		Int32 Int32	
	n+#57 [in+22]			
58 Add ← Unbox#56, Consta	III#5/ [IIII54]		Int32	
59 Goto → block 3				

itical Edges bailout

Pointer

Value

Value Value Value Value Value

Undefined

			Block 1
Block		resumepoint 14	
resumepoint 2 2 2 1 0 2 2		7 OsrEntry	10 12 11 10 8
0 Parameter THIS SLOT	Value	8 Constant undef	ined
1 Parameter 0	Value	9 OsrReturnValue	
2 Constant undefined	Undefined	10 Parameter THIS	J
3 Start		11 Parameter 0	2_0201
4 CheckOverRecursed		12 OsrValue ← Osr	Entrv#7
5 Constant magic uninitialized-le	xical MagicUninitializedLexical	13 OsrValue ← Osr	J
6 Constant 0x0	Int32	14 OsrValue ← Osr	•
6 Goto → block 2		15 Start	J
		17 Goto \rightarrow block 2	
	Block 2		i
	resumepoint 24 23 22 21 20	19 18	1
	18 Phi ← Constant#2, Constant		
	19 Phi ← Constant#2, OsrRetu		
	20 Phi ← Parameter#0, Param		
	21 Phi ← Parameter#1, Param		
	22 Phi ← Constant#6, OsrValu		
	23 Phi ← Constant#2, OsrValu		
	24 Phi ← Constant#2, OsrValu	e#14 Value	
	32 Goto → block 3		
	↓		
	Block 3 (loop h	eader)	
	resumepoint 31 30 29 28	·	
	25 Phi ← Phi#18, Phi#18	Value	
	26 Phi ← Phi#19, Phi#19	Value	
	27 Phi ← Phi#20, Phi#20	Value	
	28 Phi ← Phi#21, Phi#21	Value	
	29 Phi ← Phi#22, Add#58	Value	
	30 Phi ← Phi#23, NewPlainC	Object#40 Value	
	31 Phi ← Phi#24, LoadEleme	ent#55 Value	
	33 InterruptCheck		
	34 <u>Unbox Phi#29 to Int32 (f</u>	allible) Int32	
	35 <u>Unbox Phi#28 to Int32 (f</u>	allible) Int32	
	36 Compare ← Unbox#34, U		
	37 Test ← Compare#36 \rightarrow bl	ock 4, block 5	
			
	1		

resumepoint 31 30 29 28 27 26 25 38 Constant magic uninitialized-lexical Magic Uninitialized Lexical39 Constant shape at 119e3d16fc20 Shape 40 NewPlainObject ← Constant#39 Object 41 Constant 0x1 Int32 42 Constant string 119e3d12be60 String 43 SetPropertyCache ← NewPlainObject#40, Constant#41, Constant#42 44 Constant 0x2 Int32 45 Constant string 119e3d12d780 String 46 GuardShape ← NewPlainObject#40 Object 47 Elements ← GuardShape#46 Elements 48 StoreElementHole ← GuardShape#46, Elements#47, Constant#44, Constant#45 49 Constant 0x1 Int32 50 GuardShape \leftarrow NewPlainObject#40 Object 51 Elements \leftarrow GuardShape#50 Elements 52 InitializedLength \leftarrow Elements#51 Int32 53 BoundsCheck ← Constant#49, InitializedLength#52 Int32 $54 SpectreMaskIndex \leftarrow BoundsCheck#53$, InitializedLength#52 Int32 55 LoadElement ← Elements#51, SpectreMaskIndex#54 Value 56 Unbox Phi#29 to Int32 (fallible) Int32 57 Constant 0x1 Int32 58 Add \leftarrow Unbox#56, Constant#57 [int32] Int32 $59 \text{ Goto} \rightarrow \text{block } 3$

Block 5 resumepoint 31 30 29 28 27 26 25 60 Return ← Phi#26

./Benchmarkers/prop_access.js:1 - Renumber Blocks

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 magic uninitialized-lexica	l MagicUninitializedLexical
6 Constant 0x0	Int32
16 Goto → block 2	
	Block 2

58 Add ← Unbox#56, Constant#57 [int32]

59 Goto \rightarrow block 3

Block 1	
resumepoint 14 13 12 11 10 9 8	_
7 OsrEntry	Pointer
8 Constant undefined	Undefined
9 OsrReturnValue ← OsrEntry#7	Value
10 Parameter THIS_SLOT	Value
11 Parameter 0	Value
12 OsrValue ← OsrEntry#7	Value
13 OsrValue ← OsrEntry#7	Value
14 OsrValue ← OsrEntry#7	Value
15 Start	
17 Goto \rightarrow block 2	

resumepoint 24 23 22 21 20 19 18 Undefined 18 Phi ← Constant#2, Constant#8 19 Phi ← Constant#2, OsrReturnValue#9 Value 20 Phi ← Parameter#0, Parameter#10 Value 21 Phi ← Parameter#1, Parameter#11 Value 22 Phi ← Constant#6, OsrValue#12 Value 23 Phi ← Constant#2, OsrValue#13 Value 24 Phi ← Constant#2, OsrValue#14 Value 32 Goto \rightarrow block 3

Block 3 (loop header) resumepoint 31 30 29 28 27 26 25 25 Phi ← Phi#18, Phi#18 Value 26 Phi ← Phi#19, Phi#19 Value 27 Phi ← Phi#20, Phi#20 Value 28 Phi ← Phi#21, Phi#21 Value 29 Phi ← Phi#22, Add#58 Value 30 Phi ← Phi#23, NewPlainObject#40 Value 31 Phi ← Phi#24, LoadElement#55 Value 33 InterruptCheck 34 Unbox Phi#29 to Int32 (fallible) Int32 35 Unbox Phi#28 to Int32 (fallible) Int32 36 Compare ← Unbox#34, Unbox#35 Lt Bool 37 Test \leftarrow Compare#36 \rightarrow block 4, block 5

Block 4 (backedge) resumepoint 31 30 29 28 27 26 25 38 Constant magic uninitialized-lexical MagicUninitializedLexical 39 Constant shape at 119e3d16fc20 Shape 40 NewPlainObject ← Constant#39 Object 41 Constant 0x1 Int32 42 Constant string 119e3d12be60 String 43 SetPropertyCache ← NewPlainObject#40, Constant#41, Constant#42 44 Constant 0x2 Int32 45 Constant string 119e3d12d780 String 46 GuardShape ← NewPlainObject#40 Object 47 Elements \leftarrow GuardShape#46 Elements 48 StoreElementHole ← GuardShape#46, Elements#47, Constant#44, Constant#45 49 Constant 0x1 Int32 50 GuardShape ← NewPlainObject#40 Object 51 Elements ← GuardShape#50 Elements 52 InitializedLength ← Elements#51 Int32 53 BoundsCheck ← Constant#49, InitializedLength#52 Int32 $54 \text{ SpectreMaskIndex} \leftarrow \text{BoundsCheck#53}, InitializedLength#52}$ Int32 55 LoadElement ← Elements#51, SpectreMaskIndex#54 Value 56 Unbox Phi#29 to Int32 (fallible) Int32 57 Constant 0x1 Int32

Block 5
resumepoint 31 30 29 28 27 26 25
60 Return ← Phi#26

Int32

./Benchmarkers/prop_access.js:1 - Eliminate phis 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 magic uninitialized-lexical MagicUni	nitializedLexical
6 Constant 0x0	Int32
16 Goto \rightarrow block 2	

Block 1	
resumepoint 14 13 12 11 10 9 8	
7 OsrEntry	Pointer
8 Constant undefined	Undefined
9 OsrReturnValue ← OsrEntry#7	Value
10 Parameter THIS_SLOT	Value
11 Parameter 0	Value
12 OsrValue ← OsrEntry#7	Value
13 OsrValue ← OsrEntry#7	Value
14 OsrValue ← OsrEntry#7	Value
15 Start	
17 Goto → block 2	
/	

Block 2	
resumepoint 64 64 22 21 20 19 64	
19 Phi ← Constant#2, OsrReturnValue#9	Value
20 Phi ← Parameter#0, Parameter#10	Value
21 Phi ← Parameter#1, Parameter#11	Value
22 Phi ← Constant#6, OsrValue#12	Value
64 Constant magic optimized-out	MagicOptimizedOut
32 Goto → block 3	
	resumepoint 64 64 22 21 20 19 64 19 Phi ← Constant#2, OsrReturnValue#9 20 Phi ← Parameter#0, Parameter#10 21 Phi ← Parameter#1, Parameter#11 22 Phi ← Constant#6, OsrValue#12 64 Constant magic optimized-out

Block 3 (loop header) resumepoint 63 63 29 21 20 19 63 29 Phi ← Phi#22, Add#58 Value 63 Constant magic optimized-out MagicOptimizedOut 33 InterruptCheck 34 Unbox Phi#29 to Int32 (fallible) Int32 35 Unbox Phi#21 to Int32 (fallible) Int32 36 Compare ← Unbox#34, Unbox#35 Lt Bool 37 Test ← Compare#36 → block 4, block 5

Block 4 (backedge)

resumepoint 62 62 29 21 20 19 62	
62 Constant magic optimized-out	MagicOptimizedOut
38 Constant magic uninitialized-lexical	MagicUninitializedLexical
39 Constant shape at 119e3d16fc20	Shape
40 NewPlainObject ← Constant#39	Object
41 Constant 0x1	Int32
42 Constant string 119e3d12be60	String
43 SetPropertyCache ← NewPlainObject#40, Constant#41, Constant#42	
44 Constant 0x2	Int32
45 Constant string 119e3d12d780	String
46 GuardShape ← NewPlainObject#40	Object
47 Elements ← GuardShape#46	Elements
48 StoreElementHole ← GuardShape#46, Elements#47, Constant#44, Constant#45	5
49 Constant 0x1	Int32
50 GuardShape ← NewPlainObject#40	Object
51 Elements ← GuardShape#50	Elements
52 InitializedLength \leftarrow Elements#51	Int32
53 BoundsCheck ← Constant#49, InitializedLength#52	Int32
54 SpectreMaskIndex \leftarrow BoundsCheck#53, InitializedLength#52	Int32
55 LoadElement ← Elements#51, SpectreMaskIndex#54	Value
56 <u>Unbox Phi#29 to Int32 (fallible)</u>	Int32
57 Constant 0x1	Int32
58 Add ← Unbox#56, Constant#57 [int32]	Int32
59 Goto → block 3	

Block 5

resumepoint 61 61 29 21 20 19 61

61 Constant magic optimized-out

d-out MagicOptimizedOut

./Benchmarkers/prop_access.js:1 - Iterator Indices 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 magic uninitialized-lexical MagicUnin	itializedLexical
6 Constant 0x0	Int32
$16 \text{ Goto} \rightarrow \text{block } 2$	

Block 1	
resumepoint 14 13 12 11 10 9 8	
7 OsrEntry	Pointer
8 Constant undefined	Undefined
9 OsrReturnValue ← OsrEntry#7	Value
10 Parameter THIS_SLOT	Value
11 Parameter 0	Value
12 OsrValue ← OsrEntry#7	Value
13 OsrValue ← OsrEntry#7	Value
14 OsrValue ← OsrEntry#7	Value
15 Start	
17 Goto → block 2	

	Block 2	
I	resumepoint 64 64 22 21 20 19 64	
I	19 Phi ← Constant#2, OsrReturnValue#9	Value
I	20 Phi ← Parameter#0, Parameter#10	Value
I	21 Phi ← Parameter#1, Parameter#11	Value
I	22 Phi ← Constant#6, OsrValue#12	Value
I	64 Constant magic optimized-out	Magic Optimized Out
I	$32 \text{ Goto} \rightarrow \text{block } 3$	
1		

Block 3 (loop header) resumepoint 63 63 29 21 20 19 63 29 Phi ← Phi#22, Add#58 Value 63 Constant magic optimized-out Magic Optimized Out33 InterruptCheck 34 Unbox Phi#29 to Int32 (fallible) Int32 35 Unbox Phi#21 to Int32 (fallible) Int32 36 Compare ← Unbox#34, Unbox#35 Lt Bool 37 Test \leftarrow Compare#36 \rightarrow block 4, block 5

Block 4 (backedge)

resumepoint 62 62 29 21 20 19 62	
62 Constant magic optimized-out	Magic Optimized Out
38 Constant magic uninitialized-lexical	MagicUninitializedLexical
39 Constant shape at 119e3d16fc20	Shape
40 NewPlainObject ← Constant#39	Object
41 Constant 0x1	Int32
42 Constant string 119e3d12be60	String
43 SetPropertyCache ← NewPlainObject#40, Constant#41, Constant#42	
44 Constant 0x2	Int32
45 Constant string 119e3d12d780	String
46 GuardShape ← NewPlainObject#40	Object
47 Elements ← GuardShape#46	Elements
48 StoreElementHole ← GuardShape#46, Elements#47, Constant#44, Constant#45	5
49 Constant 0x1	Int32
50 GuardShape ← NewPlainObject#40	Object
51 Elements ← GuardShape#50	Elements
52 InitializedLength ← Elements#51	Int32
53 <u>BoundsCheck ← Constant#49</u> , <u>InitializedLength#52</u>	Int32
54 SpectreMaskIndex \leftarrow BoundsCheck#53, InitializedLength#52	Int32
55 LoadElement ← Elements#51, SpectreMaskIndex#54	Value
56 <u>Unbox Phi#29 to Int32 (fallible)</u>	Int32
57 Constant 0x1	Int32
$58 \text{ Add} \leftarrow \text{Unbox} #56$, Constant #57 [int 32]	Int32
59 Goto → block 3	

Block 5

resumepoint 61 61 29 21 20 19 61

61 Constant magic optimized-out

Magic Optimized Out

./Benchmarkers/prop_access.js:1 - Scalar Replacement 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 magic uninitialized-lexical MagicUnini	tializedLexical
6 Constant 0x0	Int32
$16 \text{ Goto} \rightarrow \text{block } 2$	

	Block 1	
	resumepoint 14 13 12 11 10 9 8	_
7	OsrEntry	Pointer
8	Constant undefined	Undefined
9	OsrReturnValue ← OsrEntry#7	Value
10	Parameter THIS_SLOT	Value
11	Parameter 0	Value
12	OsrValue ← OsrEntry#7	Value
13	OsrValue ← OsrEntry#7	Value
14	OsrValue ← OsrEntry#7	Value
15	Start	
17	Goto → block 2	

Block 2 resumepoint 64 64 22 21 20 19 64 19 Phi ← Constant#2, OsrReturnValue#9 Value 20 Phi ← Parameter#0, Parameter#10 Value 21 Phi ← Parameter#1, Parameter#11 Value 22 Phi ← Constant#6, OsrValue#12 Value 64 Constant magic optimized-out MagicOptimizedOut 32 Goto \rightarrow block 3

Block 3 (loop header) resumepoint 63 63 29 21 20 19 63 29 Phi ← Phi#22, Add#58 Value 63 Constant magic optimized-out Magic Optimized Out33 InterruptCheck 34 Unbox Phi#29 to Int32 (fallible) Int32 35 Unbox Phi#21 to Int32 (fallible) Int32 36 Compare ← Unbox#34, Unbox#35 Lt Bool 37 Test \leftarrow Compare#36 \rightarrow block 4, block 5

Block 4 (backedge)

resumepoint 62 62 29 21 20 19 62	
62 Constant magic optimized-out	MagicOptimizedOut
38 Constant magic uninitialized-lexical	MagicUninitializedLexical
39 Constant shape at 119e3d16fc20	Shape
40 NewPlainObject ← Constant#39	Object
41 Constant 0x1	Int32
42 Constant string 119e3d12be60	String
43 SetPropertyCache ← NewPlainObject#40, Constant#41, Constant#42	
44 Constant 0x2	Int32
45 Constant string 119e3d12d780	String
46 GuardShape ← NewPlainObject#40	Object
47 Elements ← GuardShape#46	Elements
48 StoreElementHole \leftarrow GuardShape#46, Elements#47, Constant#44, Constant#45	
49 Constant 0x1	Int32
50 <u>GuardShape ← NewPlainObject#40</u>	Object
51 Elements ← GuardShape#50	Elements
52 InitializedLength ← Elements#51	Int32
53 <u>BoundsCheck ← Constant#49, InitializedLength#52</u>	Int32
54 SpectreMaskIndex ← BoundsCheck#53, InitializedLength#52	Int32
55 LoadElement ← Elements#51, SpectreMaskIndex#54	Value
56 <u>Unbox Phi#29 to Int32 (fallible)</u>	Int32
57 Constant 0x1	Int32
58 Add ← Unbox#56, Constant#57 [int32]	Int32
59 Goto → block 3	

Block 5

resumepoint 61 61 29 21 20 19 61

61 Constant magic optimized-out

Magic Optimized Out

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 magic uninitialized-lexical MagicUn	initializedLexical
6 Constant 0x0	Int32
65 Box ← Constant#2	Value
16 Goto → block 2	

57 Constant 0x1

59 Goto → block 3

58 Add ← Unbox#56, Constant#57 [int32]

Block 1	
resumepoint 14 13 12 11 10 9 8	_
7 OsrEntry	Pointer
8 Constant undefined	Undefined
9 OsrReturnValue ← OsrEntry#7	Value
10 Parameter THIS_SLOT	Value
11 Parameter 0	Value
12 OsrValue ← OsrEntry#7	Value
13 OsrValue ← OsrEntry#7	Value
14 OsrValue ← OsrEntry#7	Value
15 Start	
66 <u>Unbox OsrValue#12 to Int32 (fallible)</u>	Int32
17 Goto → block 2	

Block 2 resumepoint 64 64 22 21 20 19 64 19 Phi ← Box#65, OsrReturnValue#9 Value 20 Phi ← Parameter#0, Parameter#10 Value 21 Phi ← Parameter#1, Parameter#11 Value 22 Phi ← Constant#6, Unbox#66 Int32 64 Constant magic optimized-out 32 Goto → block 3

Block 3 (loop header) resumepoint 63 63 29 21 20 19 63 29 Phi ← Phi#22, Add#58 Int32 MagicOptimizedOut 63 Constant magic optimized-out 33 InterruptCheck 67 Box ← Phi#29 Value Int32 34 Unbox Box#67 to Int32 (fallible) 35 Unbox Phi#21 to Int32 (fallible) Int32 36 Compare ← Unbox#34, Unbox#35 Lt Bool 37 Test ← Compare#36 → block 4, block 5

Block 4 (backedge) resumepoint 62 62 29 21 20 19 62 62 Constant magic optimized-out MagicOptimizedOut 38 Constant magic uninitialized-lexical MagicUninitializedLexical 39 Constant shape at 119e3d16fc20 Shape 40 NewPlainObject ← Constant#39 Object 41 Constant 0x1 Int32 42 Constant string 119e3d12be60 String 43 SetPropertyCache ← NewPlainObject#40, Constant#41, Constant#42 44 Constant 0x2 Int32 45 Constant string 119e3d12d780 String 46 GuardShape ← NewPlainObject#40 Object 47 Elements ← GuardShape#46 Elements 48 StoreElementHole ← GuardShape#46, Elements#47, Constant#44, Constant#45 49 Constant 0x1 Int32 50 GuardShape ← NewPlainObject#40 Object 51 Elements ← GuardShape#50 Elements 52 InitializedLength ← Elements#51 Int32 53 BoundsCheck ← Constant#49, InitializedLength#52 Int32 54 SpectreMaskIndex ← BoundsCheck#53, InitializedLength#52 Int32 55 LoadElement ← Elements#51, SpectreMaskIndex#54 Value 68 Box ← Phi#29 Value 56 Unbox Box#68 to Int32 (fallible) Int32

Block 5 resumepoint 61 61 29 21 20 19 61 61 Constant magic optimized-out MagicOptimizedOut 60 Return ← Phi#19

Int32

Int32

./Benchmarkers/prop_access.js:1 - Alias analysis movable, guard, in worklist, recovered on bailout

Block 0		resumepoi
resumepoint 2 2 2 1 0 2 2		9 OsrEntry
0 Parameter THIS_SLOT	Value	10 Constant ι
1 Parameter 0	Value	11 OsrReturn
2 Constant undefined	Undefined	12 Parameter
3 Start		13 Parameter
4 CheckOverRecursed		14 OsrValue +
5 Constant magic uninitialized-lexical MagicUninitiali	zedLexical	15 OsrValue +
6 Constant 0x0	Int32	16 OsrValue +
7 Box ← Constant#2	Value	17 Start
$8 \text{ Goto} \rightarrow \text{block } 2$		18 <u>Unbox Osr</u>
		19 Goto → blo

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 Magic Optimized Out25 Goto \rightarrow block 3

Block 3 (loop header) resumepoint 27 27 26 22 21 20 27 26 Phi ← Phi#23, Add#56 Int32 MagicOptimizedOut 27 Constant magic optimized-out 28 InterruptCheck 29 Box ← Phi#26 Value 30 Unbox Box#29 to Int32 (fallible) Int32 31 Unbox Phi#22 to Int32 (fallible) Int32 32 Compare ← Unbox#30, Unbox#31 Lt Bool 33 Test \leftarrow Compare#32 \rightarrow block 4, block 5

Block 4 (backedge)

resumepoint 34 34 26 22 21 20 34	_
34 Constant magic optimized-out	MagicOptimizedOut
35 Constant magic uninitialized-lexical	MagicUninitializedLexical
36 Constant shape at 119e3d16fc20	Shape
37 NewPlainObject ← Constant#36	Object
38 Constant 0x1	Int32
39 Constant string 119e3d12be60	String
40 SetPropertyCache ← NewPlainObject#37, Constant#38, Constant#39	
41 Constant 0x2	Int32
42 Constant string 119e3d12d780	String
43 <u>GuardShape ← NewPlainObject#37</u>	Object
memory 40	
44 Elements ← GuardShape#43	Elements
memory 40	
45 StoreElementHole \leftarrow GuardShape#43, Elements#44, Constant#41, Constant#42	2
46 Constant 0x1	Int32
47 <u>GuardShape ← NewPlainObject#37</u>	Object
memory 40	
48 Elements ← GuardShape#47	Elements
memory 45	
49 InitializedLength \leftarrow Elements#48	Int32
memory 45	
50 BoundsCheck ← Constant#46, InitializedLength#49	Int32
51 SpectreMaskIndex \leftarrow BoundsCheck#50, InitializedLength#49	Int32
52 LoadElement ← Elements#48, SpectreMaskIndex#51	Value
memory 45	
53 Box ← Phi#26	Value
54 <u>Unbox Box#53 to Int32 (fallible)</u>	Int32
55 Constant 0x1	Int32
56 Add ← Unbox#54, Constant#55 [int32]	Int32
57 Goto → block 3	

Block 5 resumepoint 58 58 26 22 21 20 58

58 Constant magic optimized-out

MagicOptimizedOut

./Benchmarkers/prop_access.js:1 - Eliminate dead resume point operands 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 magic uninitialized-lexical MagicUninitia	alizedLexical
6 Constant 0x0	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 \rightarrow 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 Magic Optimized Out25 Goto \rightarrow block 3

Block 3 (loop header) resumepoint 27 27 26 22 21 20 27 26 Phi ← Phi#23, Add#56 Int32 MagicOptimizedOut 27 Constant magic optimized-out 28 InterruptCheck 29 Box ← Phi#26 Value 30 Unbox Box#29 to Int32 (fallible) Int32 31 Unbox Phi#22 to Int32 (fallible) Int32 32 Compare ← Unbox#30, Unbox#31 Lt Bool 33 Test \leftarrow Compare#32 \rightarrow block 4, block 5

Block 4 (backedge)

resumepoint 34 34 26 22 21 20 34	_
34 Constant magic optimized-out	MagicOptimizedOut
35 Constant magic uninitialized-lexical	MagicUninitializedLexical
36 Constant shape at 119e3d16fc20	Shape
37 NewPlainObject ← Constant#36	Object
38 Constant 0x1	Int32
39 Constant string 119e3d12be60	String
40 SetPropertyCache ← NewPlainObject#37, Constant#38, Constant#39	
41 Constant 0x2	Int32
42 Constant string 119e3d12d780	String
43 GuardShape ← NewPlainObject#37	Object
memory 40	
44 Elements ← GuardShape#43	Elements
memory 40	
45 StoreElementHole ← GuardShape#43, Elements#44, Constant#41, Constant#42	
46 Constant 0x1	Int32
47 <u>GuardShape ← NewPlainObject#37</u>	Object
memory 40	
48 Elements ← GuardShape#47	Elements
memory 45	
49 InitializedLength \leftarrow Elements#48	Int32
memory 45	
50 BoundsCheck \leftarrow Constant#46, InitializedLength#49	Int32
51 SpectreMaskIndex \leftarrow BoundsCheck#50, InitializedLength#49	Int32
52 LoadElement \leftarrow Elements#48, SpectreMaskIndex#51	Value
memory 45	
53 Box ← Phi#26	Value
54 <u>Unbox Box#53 to Int32 (fallible)</u>	Int32
55 Constant 0x1	Int32
$56 \text{ Add} \leftarrow \text{Unbox} # 54$, Constant # 55 [int 32]	Int32
57 Goto → block 3	

Block 5 resumepoint 58 58 26 22 21 20 58

58 Constant magic optimized-out

59 Return ← Phi#20

Magic Optimized Out

./Benchmarkers/prop_access.js:1 - GVN 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	Int32
7 Box ← Constant#2	Value
$8 \text{ Goto} \rightarrow \text{block } 2$	

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 <u>Unbox OsrValue#14 to Int32 (fallible)</u>	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 Int32 23 Phi ← Constant#6, Unbox#18 24 Constant magic optimized-out MagicOptimizedOut 25 Goto → block 3

Block 3 (loop header)

resumepoint 24 24 26 22 21 20 24

26 Phi ← Phi#23, Add#56 Int32

28 InterruptCheck

31 Unbox Phi#22 to Int32 (fallible) Int32

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 119e3d16fc20 Shape 37 NewPlainObject ← Constant#36 Object 38 Constant 0x1 Int32 39 Constant string 119e3d12be60 String 40 SetPropertyCache ← NewPlainObject#37, Constant#38, Constant#39 41 Constant 0x2 Int32 42 Constant string 119e3d12d780 String 43 GuardShape ← NewPlainObject#37 Object memory 40 44 Elements ← GuardShape#43 Elements memory 40

45 StoreElementHole ← GuardShape#43, Elements#44, Constant#41, Constant#42

48 Elements ← GuardShape#43 Elements memory 45

49 InitializedLength ← Elements#48

memory 45 50 BoundsCheck ← Constant#38, InitializedLength#49

51 SpectreMaskIndex ← BoundsCheck#50, InitializedLength#49

Int32 52 LoadElement ← Elements#48, SpectreMaskIndex#51 Value

memory 45

56 Add ← Phi#26, Constant#38 [int32]

 $57 \text{ Goto} \rightarrow \text{block } 3$

Block 5 resumepoint 24 24 26 22 21 20 24 59 Return ← Phi#20

Int32

Int32

Int32

./Benchmarkers/prop_access.js:1 - LICM 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	Int32
7 Box ← Constant#2	Value
$8 \text{ Goto} \rightarrow \text{block } 2$	

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#56

Int32

28 InterruptCheck

32 Compare ← Phi#26, Unbox#31 Lt

Bool

33 Test \leftarrow Compare#32 \rightarrow 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 119e3d16fc20 Shape 37 NewPlainObject ← Constant#36 Object 38 Constant 0x1 Int32 39 Constant string 119e3d12be60 String 40 SetPropertyCache ← NewPlainObject#37, Constant#38, Constant#39 41 Constant 0x2 Int32 42 Constant string 119e3d12d780 String 43 GuardShape ← NewPlainObject#37 Object memory 40 44 Elements ← GuardShape#43 Elements

memory 40 45 StoreElementHole ← GuardShape#43, Elements#44, Constant#41, Constant#42

48 Elements ← GuardShape#43

memory 45

49 InitializedLength ← Elements#48 Int32

memory 45

50 BoundsCheck ← Constant#38, InitializedLength#49 Int32

51 SpectreMaskIndex ← BoundsCheck#50, InitializedLength#49 Int32

52 LoadElement ← Elements#48, SpectreMaskIndex#51 Value

memory 45

56 Add ← Phi#26, Constant#38 [int32]

 $57 \text{ Goto} \rightarrow \text{block } 3$

Elements

Int32

./Benchmarkers/prop_access.js:1 - Beta movable, guard, in worklist, recovered on bailout

Block 1

Block 5

59 Return ← Phi#20

resumepoint 24 24 26 22 21 20 24

resumepoint 0 Parameter T 1 Parameter 0	_	resumepoint 16 15 14 1 9 OsrEntry 10 Constant undefined 11 OsrReturnValue ← OsrE	Pointer Undefined Entry#9 Value
2 Constant un		12 Parameter THIS_SLOT	Value
3 Start		13 Parameter 0	Value
4 CheckOverR	ecursed	14 OsrValue ← OsrEntry#9	
6 Constant 0x		15 OsrValue ← OsrEntry#9	
7 Box ← Const		16 OsrValue ← OsrEntry#9	9 Value
8 Goto → block	ς 2	17 Start	T-+22 (C-11:1-1-) T +22
L		18 Unbox OsrValue#14 to	Int32 (fallible) Int32
		19 Goto → block 2	
Γ		<u> </u>	
		Block 2	
	resumepoint 24 24 23 2		_
	20 Phi ← Box#7, OsrRetur		llue
	21 Phi ← Parameter#0, Pa		llue
	22 Phi ← Parameter#1, Pa		llue
	23 Phi ← Constant#6, Unb		t32
	24 Constant magic optimiz		
	31 Unbox Phi#22 to Int32	<u>(fallible)</u> In	t32
	25 Goto → block 3		
		\	
	Block 3	(loop header)	
	resumepoint 24 2	4 26 22 21 20 24	
	26 Phi ← Phi#23, Ad	d#56 Int32	
	28 InterruptCheck		
	32 Compare ← Phi#2	6, Unbox#31 Lt Bool	
	33 Test ← Compare#	32 → block 4, block 5	
		•	
		1	0
		1	0
	Block 4 (b	ackedge)	0
resumepoint 24 24 69 22		ackedge)	0
resumepoint 24 24 69 22 70 Beta ← Unbox#31 I[-214]	21 20 24	ackedge)	Int32
_	21 20 24 7483647, 2147483647]	ackedge)	
70 Beta ← Unbox#31 I[-214	21 20 24 7483647, 2147483647] 3648, 2147483646]		Int32
70 Beta ← Unbox#31 I[-214' 69 Beta ← Phi#26 I[-214748	21 20 24 7483647, 2147483647] 3648, 2147483646] zed-lexical		Int32 Int32
70 Beta ← Unbox#31 I[-214' 69 Beta ← Phi#26 I[-214748 35 Constant magic uninitiali 36 Constant shape at 119e3 37 NewPlainObject ← Consta	21 20 24 7483647, 2147483647] 3648, 2147483646] zed-lexical d16fc20		Int32 Int32 MagicUninitializedLexical
70 Beta ← Unbox#31 I[-214' 69 Beta ← Phi#26 I[-214748 35 Constant magic uninitiali 36 Constant shape at 119e3	21 20 24 7483647, 2147483647] 3648, 2147483646] zed-lexical d16fc20		Int32 Int32 MagicUninitializedLexical Shape
70 Beta ← Unbox#31 I[-214' 69 Beta ← Phi#26 I[-214748 35 Constant magic uninitiali 36 Constant shape at 119e3 37 NewPlainObject ← Consta 38 Constant 0x1 39 Constant string 119e3d1	21 20 24 7483647, 2147483647] 3648, 2147483646] zed-lexical d16fc20 ant#36		Int32 Int32 MagicUninitializedLexical Shape Object
70 Beta ← Unbox#31 I[-214769 Beta ← Phi#26 I[-214748 35 Constant magic uninitiali 36 Constant shape at 119e3 37 NewPlainObject ← Constant 38 Constant 0x1 39 Constant string 119e3d1 40 SetPropertyCache ← New	21 20 24 7483647, 2147483647] 3648, 2147483646] zed-lexical d16fc20 ant#36		Int32 Int32 MagicUninitializedLexical Shape Object Int32 String
70 Beta ← Unbox#31 I[-214769 Beta ← Phi#26 I[-214748 35 Constant magic uninitiali 36 Constant shape at 119e3 37 NewPlainObject ← Constant 38 Constant 0x1 39 Constant string 119e3d1 40 SetPropertyCache ← New 41 Constant 0x2	21 20 24 7483647, 2147483647] 3648, 2147483646] zed-lexical d16fc20 ant#36 2be60 vPlainObject#37, Constant#		Int32 Int32 MagicUninitializedLexical Shape Object Int32 String Int32
70 Beta ← Unbox#31 I[-214' 69 Beta ← Phi#26 I[-214748 35 Constant magic uninitiali 36 Constant shape at 119e3 37 NewPlainObject ← Consta 38 Constant 0x1 39 Constant string 119e3d1 40 SetPropertyCache ← New 41 Constant 0x2 42 Constant string 119e3d1	21 20 24 7483647, 2147483647] 3648, 2147483646] zed-lexical d16fc20 ant#36 2be60 vPlainObject#37, Constant#		Int32 Int32 MagicUninitializedLexical Shape Object Int32 String Int32 String
70 Beta ← Unbox#31 I[-214769 Beta ← Phi#26 I[-214748 35 Constant magic uninitiali 36 Constant shape at 119e3 37 NewPlainObject ← Constant 38 Constant 0x1 39 Constant string 119e3d1 40 SetPropertyCache ← New 41 Constant 0x2	21 20 24 7483647, 2147483647] 3648, 2147483646] zed-lexical d16fc20 ant#36 2be60 vPlainObject#37, Constant#		Int32 Int32 MagicUninitializedLexical Shape Object Int32 String Int32
70 Beta ← Unbox#31 I[-214' 69 Beta ← Phi#26 I[-214748 35 Constant magic uninitiali 36 Constant shape at 119e3 37 NewPlainObject ← Consta 38 Constant 0x1 39 Constant string 119e3d1 40 SetPropertyCache ← New 41 Constant 0x2 42 Constant string 119e3d1 43 GuardShape ← NewPlain memory 40	21 20 24 7483647, 2147483647] 3648, 2147483646] zed-lexical d16fc20 ant#36 2be60 vPlainObject#37, Constant# 2d780 Object#37		Int32 Int32 MagicUninitializedLexical Shape Object Int32 String Int32 String Object
70 Beta ← Unbox#31 I[-214' 69 Beta ← Phi#26 I[-214748 35 Constant magic uninitiali 36 Constant shape at 119e3 37 NewPlainObject ← Consta 38 Constant 0x1 39 Constant string 119e3d1 40 SetPropertyCache ← New 41 Constant 0x2 42 Constant string 119e3d1 43 GuardShape ← NewPlain memory 40 44 Elements ← GuardShapes	21 20 24 7483647, 2147483647] 3648, 2147483646] zed-lexical d16fc20 ant#36 2be60 vPlainObject#37, Constant# 2d780 Object#37		Int32 Int32 MagicUninitializedLexical Shape Object Int32 String Int32 String
70 Beta ← Unbox#31 I[-214' 69 Beta ← Phi#26 I[-214748' 35 Constant magic uninitiali 36 Constant shape at 119e3' 37 NewPlainObject ← Consta 38 Constant 0x1 39 Constant string 119e3d1' 40 SetPropertyCache ← New 41 Constant 0x2 42 Constant string 119e3d1' 43 GuardShape ← NewPlain memory 40 44 Elements ← GuardShapes memory 40	21 20 24 7483647, 2147483647] 3648, 2147483646] zed-lexical d16fc20 ant#36 2be60 vPlainObject#37, Constant# 2d780 Object#37	38, Constant#39	Int32 Int32 MagicUninitializedLexical Shape Object Int32 String Int32 String Object
70 Beta ← Unbox#31 I[-214' 69 Beta ← Phi#26 I[-214748' 35 Constant magic uninitiali 36 Constant shape at 119e3' 37 NewPlainObject ← Consta 38 Constant 0x1 39 Constant string 119e3d1' 40 SetPropertyCache ← New 41 Constant 0x2 42 Constant string 119e3d1' 43 GuardShape ← NewPlain memory 40 44 Elements ← GuardShape memory 40 45 StoreElementHole ← Guard	21 20 24 7483647, 2147483647] 3648, 2147483646] zed-lexical d16fc20 ant#36 2be60 vPlainObject#37, Constant# 2d780 Object#37 #43 ardShape#43, Elements#44		Int32 Int32 MagicUninitializedLexical Shape Object Int32 String Int32 String Object Elements
70 Beta ← Unbox#31 I[-214' 69 Beta ← Phi#26 I[-214748' 35 Constant magic uninitiali 36 Constant shape at 119e3' 37 NewPlainObject ← Consta 38 Constant 0x1 39 Constant string 119e3d1' 40 SetPropertyCache ← New 41 Constant 0x2 42 Constant string 119e3d1' 43 GuardShape ← NewPlain memory 40 44 Elements ← GuardShapes memory 40 45 StoreElementHole ← GuardShapes	21 20 24 7483647, 2147483647] 3648, 2147483646] zed-lexical d16fc20 ant#36 2be60 vPlainObject#37, Constant# 2d780 Object#37 #43 ardShape#43, Elements#44	38, Constant#39	Int32 Int32 MagicUninitializedLexical Shape Object Int32 String Int32 String Object
70 Beta ← Unbox#31 I[-214' 69 Beta ← Phi#26 I[-214748' 35 Constant magic uninitiali 36 Constant shape at 119e3' 37 NewPlainObject ← Consta 38 Constant 0x1 39 Constant string 119e3d1' 40 SetPropertyCache ← New 41 Constant 0x2 42 Constant string 119e3d1' 43 GuardShape ← NewPlain memory 40 44 Elements ← GuardShapes memory 40 45 StoreElementHole ← GuardShapes memory 45	21 20 24 7483647, 2147483647] 3648, 2147483646] zed-lexical d16fc20 ant#36 2be60 vPlainObject#37, Constant# 2d780 Object#37 #43 ardShape#43, Elements#44 #43	38, Constant#39	Int32 Int32 MagicUninitializedLexical Shape Object Int32 String Int32 String Object Elements Elements
70 Beta ← Unbox#31 I[-214' 69 Beta ← Phi#26 I[-214748' 35 Constant magic uninitiali 36 Constant shape at 119e3' 37 NewPlainObject ← Consta 38 Constant 0x1 39 Constant string 119e3d1' 40 SetPropertyCache ← New 41 Constant 0x2 42 Constant string 119e3d1' 43 GuardShape ← NewPlain memory 40 44 Elements ← GuardShapes memory 40 45 StoreElementHole ← GuardShapes memory 45 49 InitializedLength ← Elements ← Elements ← GuardShapes	21 20 24 7483647, 2147483647] 3648, 2147483646] zed-lexical d16fc20 ant#36 2be60 vPlainObject#37, Constant# 2d780 Object#37 #43 ardShape#43, Elements#44 #43	38, Constant#39	Int32 Int32 MagicUninitializedLexical Shape Object Int32 String Int32 String Object Elements
70 Beta ← Unbox#31 I[-214' 69 Beta ← Phi#26 I[-214748' 35 Constant magic uninitiali 36 Constant shape at 119e3' 37 NewPlainObject ← Consta 38 Constant 0x1 39 Constant string 119e3d1' 40 SetPropertyCache ← New 41 Constant 0x2 42 Constant string 119e3d1' 43 GuardShape ← NewPlaine memory 40 44 Elements ← GuardShapes memory 40 45 StoreElementHole ← GuardShapes memory 45 49 InitializedLength ← Elem memory 45	21 20 24 7483647, 2147483647] 3648, 2147483646] zed-lexical d16fc20 ant#36 2be60 vPlainObject#37, Constant# 2d780 Object#37 #43 ardShape#43, Elements#44 #43 ents#48	38, Constant#39	Int32 Int32 MagicUninitializedLexical Shape Object Int32 String Int32 String Object Elements Elements Int32
70 Beta ← Unbox#31 I[-214' 69 Beta ← Phi#26 I[-214748' 35 Constant magic uninitiali 36 Constant shape at 119e3' 37 NewPlainObject ← Consta 38 Constant 0x1 39 Constant string 119e3d1' 40 SetPropertyCache ← New 41 Constant 0x2 42 Constant string 119e3d1' 43 GuardShape ← NewPlain memory 40 44 Elements ← GuardShapes memory 40 45 StoreElementHole ← GuardShapes memory 45 49 InitializedLength ← Elem memory 45 50 BoundsCheck ← Constant	21 20 24 7483647, 2147483647] 3648, 2147483646] zed-lexical d16fc20 ant#36 2be60 vPlainObject#37, Constant# 2d780 Object#37 #43 ardShape#43, Elements#44 #43 ents#48 t#38, InitializedLength#49	38, Constant#39 Constant#41, Constant#42	Int32 Int32 MagicUninitializedLexical Shape Object Int32 String Int32 String Object Elements Elements Int32 Int32
70 Beta ← Unbox#31 I[-2147 69 Beta ← Phi#26 I[-214748 35 Constant magic uninitiali 36 Constant shape at 119e3 37 NewPlainObject ← Consta 38 Constant 0x1 39 Constant string 119e3d1 40 SetPropertyCache ← New 41 Constant 0x2 42 Constant string 119e3d1 43 GuardShape ← NewPlain memory 40 44 Elements ← GuardShape memory 40 45 StoreElementHole ← Gua 48 Elements ← GuardShape memory 45 49 InitializedLength ← Elem memory 45 50 BoundsCheck ← Constant 51 SpectreMaskIndex ← Bou	21 20 24 7483647, 2147483647] 3648, 2147483646] zed-lexical d16fc20 ant#36 2be60 vPlainObject#37, Constant# 2d780 Object#37 #43 ardShape#43, Elements#44 #43 ents#48 t#38, InitializedLength#49 andsCheck#50, InitializedLe	38, Constant#39 Constant#41, Constant#42	Int32 Int32 MagicUninitializedLexical Shape Object Int32 String Int32 String Object Elements Elements Int32 Int32 Int32 Int32 Int32
70 Beta ← Unbox#31 I[-214' 69 Beta ← Phi#26 I[-214748' 35 Constant magic uninitiali 36 Constant shape at 119e3' 37 NewPlainObject ← Constant 38 Constant 0x1 39 Constant string 119e3d1' 40 SetPropertyCache ← New 41 Constant 0x2 42 Constant string 119e3d1' 43 GuardShape ← NewPlains memory 40 44 Elements ← GuardShapes memory 40 45 StoreElementHole ← GuardShapes memory 45 49 InitializedLength ← Elem memory 45 50 BoundsCheck ← Constant 51 SpectreMaskIndex ← Bout 52 LoadElement ← Elements	21 20 24 7483647, 2147483647] 3648, 2147483646] zed-lexical d16fc20 ant#36 2be60 vPlainObject#37, Constant# 2d780 Object#37 #43 ardShape#43, Elements#44 #43 ents#48 t#38, InitializedLength#49 andsCheck#50, InitializedLe	38, Constant#39 Constant#41, Constant#42	Int32 Int32 MagicUninitializedLexical Shape Object Int32 String Int32 String Object Elements Elements Int32 Int32
70 Beta ← Unbox#31 I[-214' 69 Beta ← Phi#26 I[-214748' 35 Constant magic uninitiali 36 Constant shape at 119e3' 37 NewPlainObject ← Constant 38 Constant 0x1 39 Constant string 119e3d1' 40 SetPropertyCache ← New 41 Constant 0x2 42 Constant string 119e3d1' 43 GuardShape ← NewPlaine memory 40 44 Elements ← GuardShapes memory 40 45 StoreElementHole ← GuardShapes memory 45 49 InitializedLength ← Elem memory 45 50 BoundsCheck ← Constant 51 SpectreMaskIndex ← Bout 52 LoadElement ← Elements memory 45	21 20 24 7483647, 2147483647] 3648, 2147483646] zed-lexical d16fc20 ant#36 2be60 vPlainObject#37, Constant# 2d780 Object#37 #43 ardShape#43, Elements#44 #43 ents#48 t#38, InitializedLength#49 andsCheck#50, InitializedLe s#48, SpectreMaskIndex#5	38, Constant#39 Constant#41, Constant#42	Int32 Int32 MagicUninitializedLexical Shape Object Int32 String Int32 String Object Elements Elements Int32 Int32 Int32 Int32 Int32 Value
70 Beta ← Unbox#31 I[-214' 69 Beta ← Phi#26 I[-214748' 35 Constant magic uninitiali 36 Constant shape at 119e3' 37 NewPlainObject ← Constant 38 Constant 0x1 39 Constant string 119e3d1' 40 SetPropertyCache ← New 41 Constant 0x2 42 Constant string 119e3d1' 43 GuardShape ← NewPlains memory 40 44 Elements ← GuardShapes memory 40 45 StoreElementHole ← GuardShapes memory 45 49 InitializedLength ← Elem memory 45 50 BoundsCheck ← Constant 51 SpectreMaskIndex ← Bout 52 LoadElement ← Elements	21 20 24 7483647, 2147483647] 3648, 2147483646] zed-lexical d16fc20 ant#36 2be60 vPlainObject#37, Constant# 2d780 Object#37 #43 ardShape#43, Elements#44 #43 ents#48 t#38, InitializedLength#49 andsCheck#50, InitializedLe s#48, SpectreMaskIndex#5	38, Constant#39 Constant#41, Constant#42	Int32 Int32 MagicUninitializedLexical Shape Object Int32 String Int32 String Object Elements Elements Int32 Int32 Int32 Int32 Int32

 $57 \text{ Goto} \rightarrow \text{block } 3$

./Benchmarkers/prop_access.js:1 - Range 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
$7 \text{ Box} \leftarrow \text{Constant#2}$	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 \rightarrow 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 Int32 23 Phi ← Constant#6, Unbox#18 24 Constant magic optimized-out MagicOptimizedOut 31 Unbox Phi#22 to Int32 (fallible) Int32 25 Goto \rightarrow block 3

Block 3 (loop header)

resumepoint 24 24 26 22 21 20 24

26 Phi ← Phi#23, Add#56

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

28 InterruptCheck

32 Compare ← Phi#26, Unbox#31 Lt

33 Test \leftarrow Compare#32 \rightarrow block 4, block 5

Bool

Block 4 (backedge)

resumepoint 24 24 69 22 21 20 24

70 Beta ← Unbox#31 I[-2147483647, 2147483647]

69 Beta ← Phi#26 I[-2147483648, 2147483646]

35 Constant magic uninitialized-lexical

36 Constant shape at 119e3d16fc20

37 NewPlainObject ← Constant#36

38 Constant 0x1

39 Constant string 119e3d12be60

40 SetPropertyCache ← NewPlainObject#37, Constant#38, Constant#39

41 Constant 0x2

42 Constant string 119e3d12d780

43 GuardShape ← NewPlainObject#37

memory 40

44 Elements ← GuardShape#43

memory 40

45 StoreElementHole ← GuardShape#43, Elements#44, Constant#41, Constant#42

48 Elements ← GuardShape#43

memory 45

49 InitializedLength ← Elements#48 memory 45

50 BoundsCheck ← Constant#38. InitializedLength#49

51 SpectreMaskIndex ← BoundsCheck#50, InitializedLength#49

52 LoadElement ← Elements#48. SpectreMaskIndex#51

memory 45

 $57 \text{ Goto} \rightarrow \text{block } 3$

56 Add ← Beta#69, Constant#38 [int32]

I[-2147483647, 2147483647]: Int32

I[-2147483647, 2147483647]: Int32

I[-2147483648, 2147483646]: Int32

MagicUninitializedLexical

Shape

Object

String

String

Object

Elements

Elements

I[1, 1]: Int32

I[1, 1]: Int32

Value

I[0, 268435444]: Int32

I[1, 1]: Int32

I[2, 2]: Int32

Block 5

resumepoint 24 24 26 22 21 20 24

./Benchmarkers/prop access.js:1 - De-Beta movable, guard, in worklist, recovered on bailout

Pointer

Value Value Value Value Value

Int32

Bool

I[1, 1]: Int32

I[-2147483647, 2147483647]: Int32

Value

Undefined

	, <u>5</u> , , , ,
Block 0 resumepoint 2 2 2 1 0 2 2 0 Parameter THIS_SLOT Value 1 Parameter 0 Value 2 Constant undefined Undefined	Block 1 resumepoint 16 15 14 13 12 11 10 9 OsrEntry 10 Constant undefined 11 OsrReturnValue ← OsrEntry#9 12 Parameter THIS_SLOT 13 Parameter 0
3 Start 4 CheckOverRecursed 6 Constant 0x0 I[0, 0]: Int32 7 Box ← Constant#2 Value 8 Goto → block 2	14 OsrValue ← OsrEntry#9 15 OsrValue ← OsrEntry#9 16 OsrValue ← OsrEntry#9 17 Start 18 Unbox OsrValue#14 to Int32 (fallible) 19 Goto → block 2
resumepoint 24 24 23 22 20 Phi ← Box#7, OsrReturn 21 Phi ← Parameter#0, Para 22 Phi ← Parameter#1, Para 23 Phi ← Constant#6, Unbox 24 Constant magic optimize 31 Unbox Phi#22 to Int32 (225 Goto → block 3)	Value#11 Value ameter#12 Value ameter#13 Value ox#18 Int32 ed-out MagicOptimizedOut

Block 3 (loop header)

resumepoint 24	1 24 26 22 21 20 24	1
----------------	---------------------	---

26 Phi ← Phi#23, Add#56

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

28 InterruptCheck

32 Compare ← Phi#26, Unbox#31 Lt

51 SpectreMaskIndex \leftarrow BoundsCheck#50, InitializedLength#49

52 LoadElement ← Elements#48, SpectreMaskIndex#51

56 Add ← Phi#26, Constant#38 [int32]

memory 45

 $57 \text{ Goto} \rightarrow \text{block } 3$

33 Test \leftarrow Compare#32 \rightarrow 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 119e3d16fc20	Shape
37 NewPlainObject ← Constant#36	Object
38 Constant 0x1	I[1, 1]: Int32
39 Constant string 119e3d12be60	String
40 SetPropertyCache ← NewPlainObject#37, Constant#38, Constant#39	J
41 Constant 0x2	I[2, 2]: Int32
42 Constant string 119e3d12d780	String
43 GuardShape ← NewPlainObject#37	Object
memory 40	-
44 Elements ← GuardShape#43	Elements
memory 40	
45 StoreElementHole ← GuardShape#43, Elements#44, Constant#41, Constant#42	
48 Elements ← GuardShape#43	Elements
memory 45	
49 InitializedLength \leftarrow Elements#48	I[0, 268435444]: Int32
memory 45	
50 BoundsCheck \leftarrow Constant#38, InitializedLength#49	I[1, 1]: Int32

./Benchmarkers/prop_access.js:1 - RA check UCE movable, guard, in worklist, recovered on bailout

Block 0		
resumepoint 2 2 2 1 0 2 2		
<pre>0 Parameter THIS_SLOT</pre>	Value	
1 Parameter 0	Value	
2 Constant undefined	Undefined	
3 Start		
4 CheckOverRecursed		
6 Constant 0x0	I[0, 0]: Int32	
$7 \text{ Box} \leftarrow \text{Constant#2}$	Value	
$8 \text{ Goto} \rightarrow \text{block } 2$		

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 \rightarrow 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	Magic Optimized Out
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#56 I[-2147483648 {#23}, 2147483647 {[loop] #31-1}]: Int32

28 InterruptCheck

32 Compare ← Phi#26, Unbox#31 Lt

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

Block 4 (backedge)

resumepoint 24 24 26 22 21 20 24

35 Constant magic uninitialized-lexical

36 Constant shape at 119e3d16fc20

37 NewPlainObject ← Constant#36

38 Constant 0x1

39 Constant string 119e3d12be60

40 SetPropertyCache ← NewPlainObject#37, Constant#38, Constant#39

41 Constant 0x2

42 Constant string 119e3d12d780

43 GuardShape ← NewPlainObject#37

memory 40

44 Elements ← GuardShape#43

memory 40

45 StoreElementHole ← GuardShape#43, Elements#44, Constant#41, Constant#42

48 Elements ← GuardShape#43 memory 45

49 InitializedLength ← Elements#48

memory 45

50 BoundsCheck ← Constant#38, InitializedLength#49

51 SpectreMaskIndex ← BoundsCheck#50, InitializedLength#49

52 LoadElement ← Elements#48, SpectreMaskIndex#51

memory 45

56 Add ← Phi#26, Constant#38 [int32]

 $57 \text{ Goto} \rightarrow \text{block } 3$

Magic Uninitialized Lexical

Bool

Shape Object

I[1, 1]: Int32

String

I[2, 2]: Int32

String

Object

Elements

I[1, 1]: Int32 I[1, 1]: Int32

Value

I[0, 268435444]: Int32

I[-2147483647, 2147483647]: Int32

Elements

resumepoint 24 24 26 22 21 20 24 59 Return ← Phi#20

Block 5

./Benchmarkers/prop_access.js:1 - 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#56

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

28 InterruptCheck

32 Compare ← Phi#26, Unbox#31 Lt

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

Block 4 (backedge)

resumepoint 24 24 26 22 21 20 24

35 Constant magic uninitialized-lexical

36 Constant shape at 119e3d16fc20

37 NewPlainObject ← Constant#36

38 Constant 0x1

39 Constant string 119e3d12be60

40 SetPropertyCache ← NewPlainObject#37, Constant#38, Constant#39

41 Constant 0x2

42 Constant string 119e3d12d780

43 GuardShape ← NewPlainObject#37

memory 40

44 Elements ← GuardShape#43

memory 40

45 StoreElementHole ← GuardShape#43, Elements#44, Constant#41, Constant#42

48 Elements ← GuardShape#43 memory 45

49 InitializedLength ← Elements#48

memory 45

50 BoundsCheck ← Constant#38, InitializedLength#49

51 SpectreMaskIndex ← BoundsCheck#50, InitializedLength#49

52 LoadElement ← Elements#48, SpectreMaskIndex#51 memory 45

56 Add ← Phi#26, Constant#38 [int32]

 $57 \text{ Goto} \rightarrow \text{block } 3$

Magic Uninitialized Lexical

Bool

Shape Object

I[1, 1]: Int32

String

I[2, 2]: Int32

String

Object

Elements

Elements

I[1, 1]: Int32 I[1, 1]: Int32

Value

I[0, 268435444]: Int32

I[-2147483647, 2147483647]: Int32

./Benchmarkers/prop_access.js:1 - Sink 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
$7 \text{ Box} \leftarrow \text{Constant#2}$	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#56 I[-2147483648 {#23}, 2147483647 {[loop] #31-1}]: Int32

28 InterruptCheck

32 Compare ← Phi#26, Unbox#31 Lt

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

Block 4 (backedge)

resumepoint 24 24 26 22 21 20 24

35 Constant magic uninitialized-lexical

36 Constant shape at 119e3d16fc20 37 NewPlainObject ← Constant#36

38 Constant 0x1

39 Constant string 119e3d12be60

40 SetPropertyCache ← NewPlainObject#37, Constant#38, Constant#39

41 Constant 0x2

42 Constant string 119e3d12d780

43 GuardShape ← NewPlainObject#37

memory 40

44 Elements ← GuardShape#43

memory 40

45 StoreElementHole ← GuardShape#43, Elements#44, Constant#41, Constant#42

48 Elements ← GuardShape#43 memory 45

49 InitializedLength ← Elements#48

memory 45

50 BoundsCheck ← Constant#38, InitializedLength#49

51 SpectreMaskIndex ← BoundsCheck#50, InitializedLength#49

52 LoadElement ← Elements#48, SpectreMaskIndex#51

memory 45

56 Add ← Phi#26, Constant#38 [int32]

 $57 \text{ Goto} \rightarrow \text{block } 3$

Magic Uninitialized Lexical

I[0, 268435444]: Int32

I[-2147483647, 2147483647]: Int32

Bool

Shape Object

I[1, 1]: Int32

String

I[2, 2]: Int32

String

Object

Elements

I[1, 1]: Int32 I[1, 1]: Int32

Elements

Value

resumepoint 24 24 26 22 21 20 24 59 Return ← Phi#20

Block 5

./Benchmarkers/prop_access.js:1 - Remove Unnecessary Bitops 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 \rightarrow 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#56 I[-2147483648 {#23}, 2147483647 {[loop] #31-1}]: Int32

28 InterruptCheck

32 Compare ← Phi#26, Unbox#31 Lt

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

Block 4 (backedge)

	resi	ıme	point	24	24	26	22	21	20	24	
_								- 1	1		1

35 Constant magic uninitialized-lexical

36 Constant shape at 119e3d16fc20

37 NewPlainObject ← Constant#36

38 Constant 0x1

39 Constant string 119e3d12be60

40 SetPropertyCache ← NewPlainObject#37, Constant#38, Constant#39

41 Constant 0x2

42 Constant string 119e3d12d780

43 GuardShape ← NewPlainObject#37

memory 40

44 Elements ← GuardShape#43

memory 40

45 StoreElementHole ← GuardShape#43, Elements#44, Constant#41, Constant#42

48 Elements ← GuardShape#43

memory 45

49 InitializedLength ← Elements#48

memory 45

50 BoundsCheck ← Constant#38, InitializedLength#49

51 SpectreMaskIndex ← BoundsCheck#50, InitializedLength#49

52 LoadElement ← Elements#48, SpectreMaskIndex#51

memory 45

56 Add ← Phi#26, Constant#38 [int32]

 $57 \text{ Goto} \rightarrow \text{block } 3$

Magic Uninitialized Lexical

Bool

Shape Object

I[1, 1]: Int32

String

I[2, 2]: Int32

String

Object

Elements

Elements

I[1, 1]: Int32 I[1, 1]: Int32

Value

I[0, 268435444]: Int32

I[-2147483647, 2147483647]: Int32

resumepoint 24 24 26 22 21 20 24

59 Return ← Phi#20

Block 5

./Benchmarkers/prop_access.js:1 - Fold Linear Arithmetic Constants movable, guard, in worklist, recovered on bailout

Value
Value
Undefined
I[0, 0]: Int32
Value

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

28 InterruptCheck

32 Compare ← Phi#26, Unbox#31 Lt

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

Block 4 (backedge)

resumepoint 24 24 26 22 21 20 24

35 Constant magic uninitialized-lexical

36 Constant shape at 119e3d16fc20

37 NewPlainObject ← Constant#36

38 Constant 0x1

39 Constant string 119e3d12be60

40 SetPropertyCache ← NewPlainObject#37, Constant#38, Constant#39

41 Constant 0x2

42 Constant string 119e3d12d780

43 GuardShape ← NewPlainObject#37

memory 40

44 Elements ← GuardShape#43

memory 40

45 StoreElementHole ← GuardShape#43, Elements#44, Constant#41, Constant#42

48 Elements ← GuardShape#43 memory 45

49 InitializedLength ← Elements#48

memory 45

50 BoundsCheck ← Constant#38, InitializedLength#49

51 SpectreMaskIndex ← BoundsCheck#50, InitializedLength#49

52 LoadElement ← Elements#48, SpectreMaskIndex#51 memory 45

 $57 \text{ Goto} \rightarrow \text{block } 3$

56 Add ← Phi#26, Constant#38 [int32]

Elements

Bool

Shape

Object

String

String

Object

Elements

I[1, 1]: Int32 I[1, 1]: Int32

Value

I[1, 1]: Int32

I[2, 2]: Int32

MagicUninitializedLexical

I[0, 268435444]: Int32

I[-2147483647, 2147483647]: Int32

./Benchmarkers/prop_access.js:1 - Effective Address Analysis movable, guard, in worklist, recovered on bailout

Block 0	
resumepoint 2 2 2 1 0 2 2	1
0 Parameter THIS_SLOT	Value
1 Parameter 0	Value
2 Constant undefined	Undefined
3 Start	
4 CheckOverRecursed	
6 Constant 0x0	I[0, 0]: Int32
$7 \text{ Box} \leftarrow \text{Constant#2}$	Value
$8 \text{ Goto} \rightarrow \text{block } 2$	

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

28 InterruptCheck

32 Compare ← Phi#26, Unbox#31 Lt

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

Block 4 (backedge)

resumepoint 24 24 26 22 21 20 24

35 Constant magic uninitialized-lexical

36 Constant shape at 119e3d16fc20

37 NewPlainObject ← Constant#36

38 Constant 0x1

39 Constant string 119e3d12be60

40 SetPropertyCache ← NewPlainObject#37, Constant#38, Constant#39

41 Constant 0x2

42 Constant string 119e3d12d780

43 GuardShape ← NewPlainObject#37

memory 40

44 Elements ← GuardShape#43

memory 40

45 StoreElementHole ← GuardShape#43, Elements#44, Constant#41, Constant#42

48 Elements ← GuardShape#43 memory 45

49 InitializedLength ← Elements#48

memory 45

50 BoundsCheck ← Constant#38, InitializedLength#49

51 SpectreMaskIndex ← BoundsCheck#50, InitializedLength#49

52 LoadElement ← Elements#48, SpectreMaskIndex#51

memory 45

56 Add ← Phi#26, Constant#38 [int32]

 $57 \text{ Goto} \rightarrow \text{block } 3$

MagicUninitializedLexical

Bool

Shape Object

I[1, 1]: Int32

String

I[2, 2]: Int32

String

Object

Elements

Elements

I[1, 1]: Int32 I[1, 1]: Int32

Value

I[0, 268435444]: Int32

I[-2147483647, 2147483647]: Int32

./Benchmarkers/prop_access.js:1 - DCE movable, guard, in worklist, recovered on bailout

Block 0	
resumepoint 2 2 2 1 0 2 2	_
<pre>0 Parameter THIS_SLOT</pre>	Value
1 Parameter 0	Value
2 Constant undefined	Undefined
3 Start	
4 CheckOverRecursed	
6 Constant 0x0	I[0, 0]: Int32
$7 \text{ Box} \leftarrow \text{Constant#2}$	Value
$8 \text{ Goto} \rightarrow \text{block } 2$	

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 <u>Unbox OsrValue#14 to Int32 (fallible)</u>	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#56 I[-2147483648 {#23}, 2147483647 {[loop] #31-1}]: Int32

28 InterruptCheck

resumepoint 24 24 26 22 21 20 24

32 Compare ← Phi#26, Unbox#31 Lt

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

Block 4 (backedge)

35 Constant magic uninitialized-lexical	Magic Uninitialized Lexical
36 Constant shape at 119e3d16fc20	Shape
37 NewPlainObject ← Constant#36	Object
38 Constant 0x1	I[1, 1]: Int32
39 Constant string 119e3d12be60	String
40 SetPropertyCache ← NewPlainObject#37, Constant#38, Constant#39	
41 Constant 0x2	I[2, 2]: Int32
42 Constant string 119e3d12d780	String
43 GuardShape ← NewPlainObject#37	Object
memory 40	
44 Elements ← GuardShape#43	Elements
memory 40	
45 StoreElementHole ← GuardShape#43, Elements#44, Constant#41, Constant#42	

48 Elements ← GuardShape#43 Elements memory 45

49 InitializedLength \leftarrow Elements#48 I[0, 268435444]: Int32 memory 45

50 BoundsCheck \leftarrow Constant#38, InitializedLength#49

 $\textbf{51 SpectreMaskIndex} \leftarrow BoundsCheck \#50, InitializedLength \#49$ I[1, 1]: Int32 52 LoadElement ← Elements#48, SpectreMaskIndex#51

memory 45

56 Add ← Phi#26, Constant#38 [int32]

 $57 \text{ Goto} \rightarrow \text{block } 3$

Bool

I[1, 1]: Int32

Value

I[-2147483647, 2147483647]: Int32

./Benchmarkers/prop_access.js:1 - Reordering movable, guard, in worklist, recovered on bailout

Block 0			
resumepoint 2 2 2 1 0 2 2			
<pre>0 Parameter THIS_SLOT</pre>	Value		
1 Parameter 0	Value		
2 Constant undefined	Undefined		
3 Start			
4 CheckOverRecursed			
5 Constant 0x0	I[0, 0]: Int32		
$6 \text{ Box} \leftarrow \text{Constant#2}$	Value		
$7 \text{ Goto} \rightarrow \text{block } 2$			

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 <u>Unbox OsrValue#13 to Int32 (fallible)</u>	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 \leftarrow Phi#22, Add#46

I[-2147483648 {#22}, 2147483647 {[loop] #24-1}]: Int32

Bool

27 InterruptCheck

28 Compare ← Phi#26, Unbox#24 Lt

29 Test \leftarrow Compare#28 \rightarrow block 4, block 5

Block 4 (backedge)

Eloui I (Saciouge)	
resumepoint 23 23 26 21 20 19 23	
30 Constant magic uninitialized-lexical	MagicUninitializedLexical
31 Constant shape at 119e3d16fc20	Shape
32 Constant string 119e3d12be60	String
33 Constant 0x2	I[2, 2]: Int32
34 Constant string 119e3d12d780	String
35 NewPlainObject ← Constant#31	Object
36 Constant 0x1	I[1, 1]: Int32
37 SetPropertyCache ← NewPlainObject#35, Constant#36, Constant#32	
38 <u>GuardShape ← NewPlainObject#35</u>	Object
memory 37	
39 Elements ← GuardShape#38	Elements
memory 37	
40 StoreElementHole \leftarrow GuardShape#38, Elements#39, Constant#33, Constant#34	
41 Elements ← GuardShape#38	Elements
memory 40	

4 memory 40

42 InitializedLength ← Elements#41 I[0, 268435444]: Int32 memory 40

43 BoundsCheck ← Constant#36, InitializedLength#42 I[1, 1]: Int32

44 SpectreMaskIndex \leftarrow BoundsCheck#43, InitializedLength#42 I[1, 1]: Int32 45 LoadElement ← Elements#41, SpectreMaskIndex#44 Value

memory 40

46 Add ← Phi#26, Constant#36 [int32] I[-2147483647, 2147483647]: Int32

 $47 \text{ Goto} \rightarrow \text{block } 3$

./Benchmarkers/prop_access.js:1 - Make loops contiguous 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 <u>Unbox OsrValue#13 to Int32 (fallible)</u>	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#46 I[-2147483648 {#22}, 2147483647 {[loop] #24-1}]: Int32

27 InterruptCheck

28 Compare ← Phi#26, Unbox#24 Lt

29 Test ← Compare#28 → block 4, block 5

Block 4 (backedge)

resumepoint 23 23 26 21 20 19 23 30 Constant magic uninitialized-lexical 31 Constant shape at 119e3d16fc20 32 Constant string 119e3d12be60 33 Constant 0x2

34 Constant string 119e3d12d780 35 NewPlainObject ← Constant#31

36 Constant 0x1 37 SetPropertyCache ← NewPlainObject#35, Constant#36, Constant#32

38 GuardShape ← NewPlainObject#35

39 Elements ← GuardShape#38 memory 37

memory 37

40 StoreElementHole ← GuardShape#38, Elements#39, Constant#33, Constant#34

41 Elements ← GuardShape#38 memory 40

42 InitializedLength ← Elements#41

memory 40 43 BoundsCheck ← Constant#36, InitializedLength#42

44 SpectreMaskIndex ← BoundsCheck#43, InitializedLength#42

45 LoadElement ← Elements#41, SpectreMaskIndex#44 memory 40

46 Add ← Phi#26, Constant#36 [int32] $47 \text{ Goto} \rightarrow \text{block } 3$

Magic Uninitialized Lexical

Bool

Shape String

I[2, 2]: Int32 String

Object I[1, 1]: Int32

Object

Elements

Elements

I[1, 1]: Int32 I[1, 1]: Int32

Value

I[0, 268435444]: Int32

I[-2147483647, 2147483647]: Int32

48 Return ← Phi#19

Block 5 resumepoint 23 23 26 21 20 19 23

./Benchmarkers/prop_access.js:1 - Remove fake loop predecessors 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 <u>Unbox OsrValue#13 to Int32 (fallible)</u>	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#46 I[-2147483648 {#22}, 2147483647 {[loop] #24-1}]: Int32

27 InterruptCheck

28 Compare ← Phi#26, Unbox#24 Lt

29 Test ← Compare#28 → block 4, block 5

Block 4 (backedge)

resumepoint 23 23 26 21 20 19 23 MagicUninitializedLexical 30 Constant magic uninitialized-lexical 31 Constant shape at 119e3d16fc20 Shape 32 Constant string 119e3d12be60 String I[2, 2]: Int32 33 Constant 0x2 String 34 Constant string 119e3d12d780 35 NewPlainObject ← Constant#31 Object I[1, 1]: Int32 36 Constant 0x1 37 SetPropertyCache ← NewPlainObject#35, Constant#36, Constant#32 38 GuardShape ← NewPlainObject#35 Object memory 37 39 Elements ← GuardShape#38 Elements memory 37 40 StoreElementHole ← GuardShape#38, Elements#39, Constant#33, Constant#34 41 Elements ← GuardShape#38 Elements

memory 40 I[0, 268435444]: Int32

42 InitializedLength ← Elements#41

memory 40 43 BoundsCheck ← Constant#36, InitializedLength#42

I[1, 1]: Int32 44 SpectreMaskIndex ← BoundsCheck#43, InitializedLength#42

45 LoadElement ← Elements#41, SpectreMaskIndex#44 memory 40

46 Add ← Phi#26, Constant#36 [int32]

 $47 \text{ Goto} \rightarrow \text{block } 3$

I[1, 1]: Int32

Bool

Value

I[-2147483647, 2147483647]: Int32

./Benchmarkers/prop_access.js:1 - Edge Case Analysis (Late) movable, guard, in worklist, recovered on bailout

Block 0	
resumepoint 2 2 2 1 0 2 2	
<pre>0 Parameter THIS_SLOT</pre>	Value
1 Parameter 0	Value
2 Constant undefined	Undefined
3 Start	
4 CheckOverRecursed	
5 Constant 0x0	I[0, 0]: Int32
$6 \text{ Box} \leftarrow \text{Constant#2}$	Value
7 Goto \rightarrow 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 <u>Unbox OsrValue#13 to Int32 (fallible)</u>	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#46 I[-2147483648 {#22}, 2147483647 {[loop] #24-1}]: Int32

27 InterruptCheck

28 Compare ← Phi#26, Unbox#24 Lt

29 Test ← Compare#28 → block 4, block 5

Block 4 (backedge)

resumepoint 23 23 26 21 20 19 23 30 Constant magic uninitialized-lexical Magic Uninitialized Lexical31 Constant shape at 119e3d16fc20 Shape 32 Constant string 119e3d12be60 String 33 Constant 0x2 I[2, 2]: Int32 String 34 Constant string 119e3d12d780 35 NewPlainObject ← Constant#31 Object I[1, 1]: Int32 36 Constant 0x1 37 SetPropertyCache ← NewPlainObject#35, Constant#36, Constant#32 38 GuardShape ← NewPlainObject#35 Object memory 37 39 Elements ← GuardShape#38 Elements memory 37 40 StoreElementHole ← GuardShape#38, Elements#39, Constant#33, Constant#34 41 Elements ← GuardShape#38 Elements

memory 40 42 InitializedLength ← Elements#41

I[0, 268435444]: Int32

memory 40

43 BoundsCheck ← Constant#36, InitializedLength#42

Bool

44 SpectreMaskIndex ← BoundsCheck#43, InitializedLength#42

I[1, 1]: Int32

45 LoadElement ← Elements#41, SpectreMaskIndex#44

I[1, 1]: Int32

memory 40

Value

46 Add ← Phi#26, Constant#36 [int32]

I[-2147483647, 2147483647]: Int32

 $47 \text{ Goto} \rightarrow \text{block } 3$

./Benchmarkers/prop_access.js:1 - Bounds Check 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 <u>Unbox OsrValue#13 to Int32 (fallible)</u>	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#46

I[-2147483648 {#22}, 2147483647 {[loop] #24-1}]: Int32

27 InterruptCheck

28 Compare ← Phi#26, Unbox#24 Lt

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 119e3d16fc20 Shape 32 Constant string 119e3d12be60 String 33 Constant 0x2 I[2, 2]: Int32 String 34 Constant string 119e3d12d780 35 NewPlainObject \leftarrow Constant#31 Object I[1, 1]: Int32 36 Constant 0x1 37 SetPropertyCache ← NewPlainObject#35, Constant#36, Constant#32 38 GuardShape ← NewPlainObject#35 Object memory 37 39 Elements ← GuardShape#38 Elements memory 37 40 StoreElementHole ← GuardShape#38, Elements#39, Constant#33, Constant#34 Elements

41 Elements ← GuardShape#38 memory 40

42 InitializedLength ← Elements#41

Bool

I[0, 268435444]: Int32

memory 40

43 BoundsCheck ← Constant#36, InitializedLength#42

I[1, 1]: Int32

44 SpectreMaskIndex ← Constant#36, InitializedLength#42 45 LoadElement ← Elements#41, SpectreMaskIndex#44

I[1, 1]: Int32

Value

memory 40

46 Add ← Phi#26, Constant#36 [int32] $47 \text{ Goto} \rightarrow \text{block } 3$

I[-2147483647, 2147483647]: Int32

./Benchmarkers/prop_access.js:1 - 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
$6 \text{ Box} \leftarrow \text{Constant#2}$	Value
$7 \text{ Goto} \rightarrow \text{block } 2$	
	\

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 <u>Unbox OsrValue#13 to Int32 (fallible)</u>	Int32
18 Goto → block 2	

Bool

I[-2147483647, 2147483647]: Int32

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#46 I[-2147483648 {#22}, 2147483647 {[loop] #24-1}]: Int32

27 InterruptCheck

28 Compare ← Phi#26, Unbox#24 Lt

29 Test ← Compare#28 → block 4, block 5

Block 4 (backedge)

resumepoint 23 23 26 21 20 19 23 30 Constant magic uninitialized-lexical Magic Uninitialized Lexical31 Constant shape at 119e3d16fc20 Shape 32 Constant string 119e3d12be60 String 33 Constant 0x2 I[2, 2]: Int32 String 34 Constant string 119e3d12d780 35 NewPlainObject \leftarrow Constant#31 Object I[1, 1]: Int32 36 Constant 0x1 37 SetPropertyCache ← NewPlainObject#35, Constant#36, Constant#32 38 GuardShape ← NewPlainObject#35 Object memory 37 39 Elements ← GuardShape#38 Elements memory 37 40 StoreElementHole ← GuardShape#38, Elements#39, Constant#33, Constant#34 41 Elements ← GuardShape#38 Elements

memory 40

42 InitializedLength ← Elements#41 I[0, 268435444]: Int32

memory 40

43 BoundsCheck ← Constant#36, InitializedLength#42 I[1, 1]: Int32

I[1, 1]: Int32 44 SpectreMaskIndex ← Constant#36, InitializedLength#42

45 LoadElement ← Elements#41, SpectreMaskIndex#44 Value memory 40

46 Add ← Phi#26, Constant#36 [int32]

 $47 \text{ Goto} \rightarrow \text{block } 3$

resumepoint 23 23 26 21 20 19 23 48 Return ← Phi#19

Block 5

./Benchmarkers/prop_access.js:1 - GC Barrier Elimination movable, guard, in worklist, recovered on bailout

Block 0	
resumepoint 2 2 2 1 0 2 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
$6 \text{ Box} \leftarrow \text{Constant#2}$	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 <u>Unbox OsrValue#13 to Int32 (fallible)</u>	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 \leftarrow Phi#22, Add#46 I[-2147483648 {#22}, 2147483647 {[loop] #24-1}]: Int32

27 InterruptCheck

28 Compare ← Phi#26, Unbox#24 Lt

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 119e3d16fc20	Shape
32 Constant string 119e3d12be60	String
33 Constant 0x2	I[2, 2]: Int32
34 Constant string 119e3d12d780	String
35 NewPlainObject ← Constant#31	Object
36 Constant 0x1	I[1, 1]: Int32
37 SetPropertyCache ← NewPlainObject#35, Constant#36, Constant#32	
38 <u>GuardShape ← NewPlainObject#35</u>	Object
memory 37	
39 Elements ← GuardShape#38	Elements
memory 37	
40 StoreElementHole ← GuardShape#38, Elements#39, Constant#33, Constant#34	
41 Elements ← GuardShape#38	Elements

4 memory 40 42 InitializedLength ← Elements#41

memory 40 43 BoundsCheck ← Constant#36, InitializedLength#42

44 SpectreMaskIndex \leftarrow Constant#36, InitializedLength#42

45 LoadElement ← Elements#41, SpectreMaskIndex#44 memory 40

46 Add ← Phi#26, Constant#36 [int32]

 $47 \text{ Goto} \rightarrow \text{block } 3$

I[-2147483647, 2147483647]: Int32

I[0, 268435444]: Int32

I[1, 1]: Int32

I[1, 1]: Int32

Value

Bool

./Benchmarkers/prop_access.js:1 - FoldLoadsWithUnbox 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
$6 \text{ Box} \leftarrow \text{Constant#2}$	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 <u>Unbox OsrValue#13 to Int32 (fallible)</u>	Int32
18 Goto → block 2	

Bool

Shape

String

String

Object

Elements

Elements

I[2, 2]: Int32

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#46 I[-2147483648 {#22}, 2147483647 {[loop] #24-1}]: Int32

27 InterruptCheck

28 Compare ← Phi#26, Unbox#24 Lt

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 119e3d16fc20 32 Constant string 119e3d12be60 33 Constant 0x2 34 Constant string 119e3d12d780 35 NewPlainObject \leftarrow Constant#31

Object I[1, 1]: Int32 36 Constant 0x1 37 SetPropertyCache ← NewPlainObject#35, Constant#36, Constant#32

38 GuardShape ← NewPlainObject#35

memory 37 39 Elements ← GuardShape#38

memory 37 40 StoreElementHole ← GuardShape#38, Elements#39, Constant#33, Constant#34

41 Elements ← GuardShape#38

memory 40 42 InitializedLength ← Elements#41 I[0, 268435444]: Int32

memory 40 43 BoundsCheck ← Constant#36, InitializedLength#42

I[1, 1]: Int32

I[1, 1]: Int32 44 SpectreMaskIndex ← Constant#36, InitializedLength#42 45 LoadElement ← Elements#41, SpectreMaskIndex#44 Value

memory 40 46 Add ← Phi#26, Constant#36 [int32]

I[-2147483647, 2147483647]: Int32

 $47 \text{ Goto} \rightarrow \text{block } 3$

./Benchmarkers/prop_access.js:1 - Add KeepAlive Instructions 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	
$6 \text{ Box} \leftarrow \text{Constant#2}$	Value	

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 <u>Unbox OsrValue#13 to Int32 (fallible)</u>	Int32

Value

Value

Block 2 resumepoint 23 23 22 21 20 19 23 19 Phi ← Box#6, OsrReturnValue#10 20 Phi ← Parameter#0, Parameter#11

21 Phi ← Parameter#1, Parameter#12 Value 22 Phi ← Constant#5, Unbox#17 Int32

18 Goto \rightarrow block 2

23 Constant magic optimized-out MagicOptimizedOut 24 Unbox Phi#21 to Int32 (fallible) Int32

25 Goto \rightarrow block 3

Block 3 (loop header)

resumepoint 23 23 26 21 20 19 23

26 Phi ← Phi#22, Add#46

 $7 \text{ Goto} \rightarrow \text{block } 2$

I[-2147483648 {#22}, 2147483647 {[loop] #24-1}]: Int32

27 InterruptCheck

28 Compare ← Phi#26, Unbox#24 Lt

29 Test ← Compare#28 → block 4, block 5

Bool

Block 4 (backedge)

30 Constant magic uninitialized-lexical

resumepoint 23 23 26 21 20 19 23

31 Constant shape at 119e3d16fc20

32 Constant string 119e3d12be60

33 Constant 0x2

34 Constant string 119e3d12d780

35 NewPlainObject ← Constant#31

36 Constant 0x1

37 SetPropertyCache \leftarrow NewPlainObject#35, Constant#36, Constant#32

38 GuardShape ← NewPlainObject#35

memory 37

39 Elements ← GuardShape#38

memory 37

40 StoreElementHole \leftarrow GuardShape#38, Elements#39, Constant#33, Constant#34

41 Elements ← GuardShape#38 memory 40

73 <u>DebugEnterGCUnsafeRegion</u>

71 <u>DebugEnterGCUnsafeRegion</u>

42 InitializedLength ← Elements#41 memory 40

74 DebugLeaveGCUnsafeRegion

43 BoundsCheck ← Constant#36, InitializedLength#42

44 SpectreMaskIndex ← Constant#36, InitializedLength#42

45 LoadElement ← Elements#41, SpectreMaskIndex#44 memory 40

72 DebugLeaveGCUnsafeRegion

46 Add ← Phi#26, Constant#36 [int32]

 $47 \text{ Goto} \rightarrow \text{block } 3$

MagicUninitializedLexical

Shape String

I[2, 2]: Int32 String

Object

I[1, 1]: Int32

Object

Elements

I[1, 1]: Int32

I[1, 1]: Int32

Value

I[0, 268435444]: Int32

I[-2147483647, 2147483647]: Int32

Elements



Block 0

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

Block 1

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

Block 2

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

Block 3

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

\int_{1}^{1}

Block 4

- $27 \{v23 < o >\} \leftarrow \text{newplainobject } t=(v20 < g >, v21 < g >, v22 < g >)$
- 28 osipoint
- 29 $\{v25 < i >\} \leftarrow integer (1)$
- 30 setpropertycache (v23:R), (v25:R), (string) t=(v26 < g>, v24 < d>:%xmm0.d)
- 31 osipoint
- $32 \{v28 < o > : tied(0)\} \leftarrow guardshape (v23:R) t = (v27 < g >)$
- 33 $\{v29 < s >\}$ \leftarrow elements (v28:R)
- $34 \{v30 < i >\} \leftarrow integer (2)$
- 35 storeelementholet (v28:R), (v29:R), (v30:R), (string) t=(v31 < g >)
- 36 osipoint
- $37 \{v32 < s >\} \leftarrow elements (v28:R)$
- 38 debugentergcunsaferegion t=(v33 < g>)
- 39 debugentergcunsaferegion t=(v34 < g>)
- $40 \{v35 < i >\}$ ← initializedlength (v32:R)
- 41 debugleavegcunsaferegion t=(v36 < q >)
- 42 boundscheck (1), (v35:A)
- 43 $\{v37 < i >\} \leftarrow integer (1)$
- 44 $\{v38 < i >\} \leftarrow spectremaskindex (v37:R), (v35:A)$
- 45 $\{v39 < x >\} \leftarrow loadelementv (v32:R), (v38:R)$
- 46 debugleavegcunsaferegion t=(v40 < g>)
- $47 \{v41 < i > :tied(0)\} \leftarrow addi (v19:R), (1)$
- 48 goto s = (block 3)

Block 5
49 return (v14:F:rcx)

./Benchmarkers/prop_access.js:1 - Allocate Registers [Backtracking] movable, guard, in worklist, recovered on bailout

Block 0

- 1 $\{v1 < x > :arg:0\} \leftarrow parameter$
- $2 \{v2 < x > :arg:8\} \leftarrow parameter$
- 3 checkoverrecursed
- 4 osipoint
- $5 \{v3 < x > :rbx\} \leftarrow value$
- $6 \{v4 < i > :rax\} \leftarrow integer(0)$
- 0 movegroup [arg:0 \rightarrow r8, x]
- 7 qoto s=(block 2)

Block 1

- $8 \{v6 < g > :rcx\} \leftarrow osrentry t = (v5 < g > :rax)$
- 9 $\{v7 < x > :rbx\} \leftarrow osrreturnvalue (rcx)$
- 10 $\{v8 < x > :arg:0\} \leftarrow parameter$
- 11 $\{v9 < x > :arg:8\} \leftarrow parameter$
- 12 $\{v10 < x > : rdx\} \leftarrow osrvalue(rcx)$
- 13 $\{v11 < x > :rsi\} \leftarrow osrvalue (rcx)$
- 14 $\{v12 < x > :rdi\} \leftarrow osrvalue (rcx)$
- 15 $\{v13 < i > :rax\} \leftarrow unbox (rdx)$
- 0 movegroup [arg:0 \rightarrow r8, x]
- 16 qoto s=(block 2)

Block 2

- 17 $\{v14 < x >\} \leftarrow phi(v3:A), (v7:A)$
- 18 $\{v15 < x >\} \leftarrow phi (v1:A), (v8:A)$
- 19 $\{v16 < x >\} \leftarrow phi(v2:A), (v9:A)$
- 20 $\{v17 < i >\} \leftarrow phi(v4:A), (v13:A)$
 - 0 movegroup [arg:8 \rightarrow rcx, x]
- 21 $\{v18 < i > :rdx\} \leftarrow unbox (rcx)$
- 0 movegroup [rbx \rightarrow r12, x], [arg:8 \rightarrow r9, x]
- 22 goto s=(block 3)

Block 3

- $23 \{v19 < i >\} \leftarrow phi (v17:A), (v41:A)$
- 24 interruptcheck
- 25 osipoint
- 26 compareandbranch (rax), (rdx) s=(block 4, block 5)

Block 4

- 27 $\{v23 < o > :rbx\} \leftarrow newplainobject t = (v20 < g > :rsi, v21 < g > :rdi, v22 < g > :rcx)$
- 28 osipoint
- 29 $\{v25 < i > :rcx\} \leftarrow integer (1)$
- 30 setpropertycache (rbx), (rcx), (string) t=(v26 < g > :rsi, v24 < d > :%xmm0.d)
- 31 osipoint
- 0 movegroup [rbx \rightarrow r10, o]
- 32 $\{v28 < o > :rbx\} \leftarrow guardshape (rbx) t = (v27 < g > :rcx)$
- 33 $\{v29 < s > : rcx\} \leftarrow elements (rbx)$
- $34 \{v30 < i > :rsi\} \leftarrow integer (2)$
- 35 storeelementholet (rbx), (rcx), (rsi), (string) t=(v31<g>:rdi)
- 36 osipoint
- $37 \{v32 < s > :rbx\} \leftarrow elements (rbx)$
- 38 debugentergcunsaferegion t=(v33 < g > :rcx)
- 39 debugentergcunsaferegion t=(v34 < g > :rcx)
- $40 \{v35 < i > :rcx\} \leftarrow initialized length (rbx)$
- 41 debugleavegcunsaferegion t=(v36<q>:rsi)
- 42 boundscheck (1), (rcx)
- 43 $\{v37 < i > :rdi\} \leftarrow integer (1)$
- 44 $\{v38 < i > :rsi\} \leftarrow spectremaskindex (rdi), (rcx)$
- 45 $\{v39 < x > : rcx\} \leftarrow loadelementv (rbx), (rsi)$
- 46 debugleavegcunsaferegion t=(v40 < g > :rcx)
- 47 $\{v41 < i > :rax\} \leftarrow addi (rax), (1)$
- 48 goto s=(block 3)

Block 5

0 movegroup $[r12 \rightarrow rcx, x]$ 49 return (rcx)