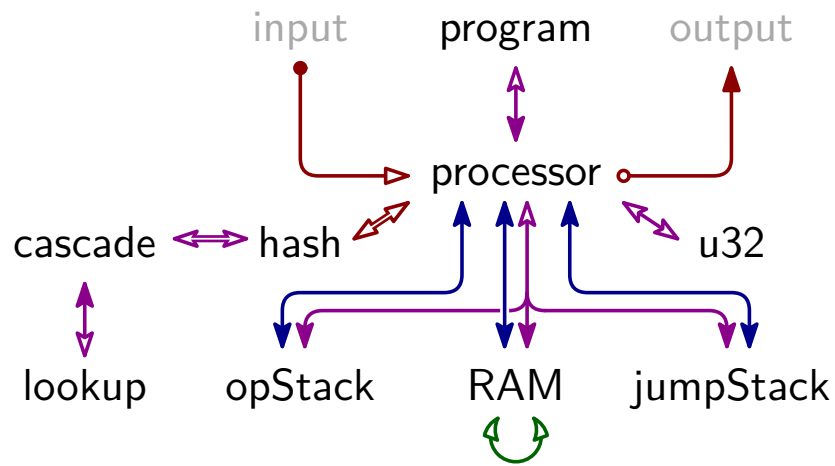




2	\ominus	pop	- st ₀	-
1	\oplus	push + a	-	- a
8	\oplus	divine	-	- a
9	\oplus	dup + i	- st ₁₅ ... st ₀	- st ₁₅ ... st ₀ st _i
17	\bigcirc^{16}	swap + i	- ... st _i ... st ₀	- ... st ₀ ... st _i
16	\bigcirc	nop	-	-
10	\ominus	skiz	- st ₀	-
25	\bigcirc	call + d	-	-
24	\bigcirc	return	-	-
32	\bigcirc	recurse	-	-
18	\ominus	assert	- st ₀	-
0	\bigcirc	halt	-	-
40	\ominus	read_mem	- addr	- addr a
26	\oplus	write_mem	- addr a	- addr
48	\bigcirc^{10}	hash	- st ₉ ... st ₀	- d ₄ ... d ₀ 0 ... 0
56	\bigcirc^{11}	divine_sibling	- idx st ₉ ... st ₅ d ₄ ... d ₀	- idx >> 1 r ₄ ... r ₀ l ₄ ... l ₀
64	\bigcirc	assert_vector	-	-
72	\bigcirc	absorb_init	-	-
80	\bigcirc	absorb	-	-
88	\bigcirc^{10}	squeeze	- st ₉ ... st ₀	- sq ₉ ... sq ₀
34	\ominus^1	add	- st ₁ st ₀	- (st ₀ +st ₁)
42	\ominus^1	mul	- st ₁ st ₀	- (st ₀ ·st ₁)
96	\bigcirc^1	invert	- st ₀	- st ₀ ⁻¹
50	\ominus^1	eq	- st ₁ st ₀	- (st ₀ ==st ₁)
4	\oplus^2	split	- st ₀	- hi lo
12	\ominus^1	lt	- st ₁ st ₀	- (st ₀ <st ₁)
20	\ominus^1	and	- st ₁ st ₀	- (st ₀ &st ₁)
28	\ominus^1	xor	- st ₁ st ₀	- (st ₀ ^st ₁)
36	\bigcirc^1	log2_floor	- st ₀	- ⌊log ₂ (st ₀)⌋
44	\ominus^1	pow	- e b	- b ^e
52	\bigcirc^2	div	- denom num	- quot rem
60	\bigcirc^1	pop_count	- st ₀	- w
104	\bigcirc^3	xxadd	- y ₂ y ₁ y ₀ x ₂ x ₁ x ₀	- y ₂ y ₁ y ₀ z ₂ z ₁ z ₀
112	\bigcirc^3	xxmul	- y ₂ y ₁ y ₀ x ₂ x ₁ x ₀	- y ₂ y ₁ y ₀ z ₂ z ₁ z ₀
120	\bigcirc^3	xinvert	- x ₂ x ₁ x ₀	- y ₂ y ₁ y ₀
58	\ominus^3	xbmul	- x ₂ x ₁ x ₀ b	- y ₂ y ₁ y ₀
128	\oplus	read_io	-	- a
66	\ominus	write_io	- a	-



	base	ext	Σ
Program	4	1	5
Processor	42	11	53
OpStack	4	2	6
RAM	7	6	13
JumpStack	5	2	7
Hash	66	19	85
Cascade	6	2	8
Lookup	4	2	6
U32	10	1	11
Σ	148	46	194

	init	cons	trans	term	Σ
Program	2	1	3		6
Processor	37	11	73	1	122
OpStack	5		4		9
Ram	8		12	1	21
JumpStack	6		6		12
Hash	21	41	42		104
Cascade	2	1	3		6
Lookup	3	1	4	1	9
U32	1	15	22	2	40
Cross-Table				1	1
Σ	85	70	169	6	330