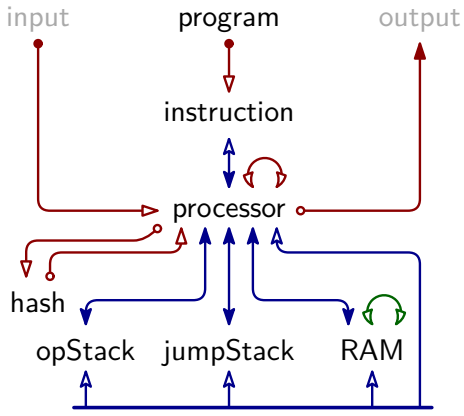
02	$\ominus$	pop	
01	$\oplus$	push + a	
04	$\oplus$	divine	
05	$\oplus$	dup + i	
09	$\bigcirc^{16}$	swap + i	
08	$\bigcirc$	nop	
06	$\ominus$	skiz	
13	$\bigcirc$	call + d	
12	$\bigcirc$	return	
16	$\bigcirc$	recurse	
10	$\ominus$	assert	
00	$\bigcirc$	halt	
20	$\bigcirc^{1}$	read_mem	
24	$\bigcirc$	write_mem	
28	$\bigcirc^{10}$	hash	
32	$\bigcirc^{11}$	divine_sibling	st12 % 2 = 0 ⇒ left node
36	$\bigcirc$	assert_vector	
14	$\ominus^{1}$	add	
18	$\ominus^{1}$	mul	
40	$\bigcirc^{1}$	invert	
44	$\oplus^{2}$	split	hi → st0’
22	$\ominus^{1}$	eq	
48	$\oplus^{2}$	lsb	
52	$\bigcirc^{3}$	xxadd	
56	$\bigcirc^{3}$	xxmul	
60	$\bigcirc^{3}$	xinvert	
26	$\ominus^{3}$	xbmul	st0 · (st1, st2, st3)
64	$\oplus$	read_io	
30	$\ominus$	write_io	

Table	Base Columns																								
Program	Address								Instruction		IsPadding														
Instruction	Address								CI	NIA	IsPadding														
Processor	CLK	IsPadding	IP	PI	CI	NIA	IB0	...	IB6	JSP	JSO	JSD	ST0	...	ST15	OSP	OSV	HV0	...	HV3	RAMP	RAMV			
OpStack	CLK	clk_di							IB1 (≙ shrink stack)							OSP	OSV								
RAM	CLK	clk_di		PI			bcpc0	bcpc1										RAMPDiffInv			RAMP	RAMV			
JumpStack	CLK	clk_di			CI					JSP	JSO	JSD													
Hash	RoundNumber												ST0	...	ST15	CONSTANT0A		...	CONSTANT15B						

#clk	instruction
2	neg
4	sub
68	is_u32
139	split_assert
146	lte
148	lt
295	and
301	xor
195	reverse
164	div



$p = 18446744069414584321$

i	$\mathbb{F}_p(1/i)$	$-\mathbb{F}_p(1/i)$
2	092...161	922...160
3	122...881	614...440
4	138...241	461...080
5	147...457	368...864
6	153...601	307...720

	base	ext	$\sum$
Program	3	1	4
Instruction	4	2	6
Processor	43	11	54
OpStack	5	2	7
RAM	8	6	14
JumpStack	6	2	8
Hash	49	2	51
$\sum$	118	26	144

	init	cons	trans	term	$\sum$
Program	2	1	3		6
Instruction	3	1	5		9
Processor	37	11	75	2	125
OpStack	5		6		11
Ram	8		14	1	23
JumpStack	6		8		14
Hash	3	38	21		62
Cross-Table				1	1
$\sum$	64	51	132	4	251