Y86-64 Instruction Set

Instruction	icode:fn	rA:rB

	byte 0	1	2	3	4	5	6	7	8	9

halt — `0 = IHALT` `0`

nop — `1 = INOP` `0`

cmovXX rA, rB — `2 = IRRMOVQ` `fn`

	fn
rrmovq	0
cmovle	1
cmovl	2
cmove	3
cmovne	4
cmovge	5
cmovg	6

irmovq V, rB — `3 = IIRMOVQ` `0` `F` `rB` `V` (through byte 9)

rmmovq rA, D(rB) — `4 = IRMMOVQ` `0` `rA` `rB` `D`

mrmovq D(rB), rA — `5 = IMRMOVQ` `0` `rA` `rB` `D`

OPq rA, rB — `6 = IOPQ` `fn` `rA` `rB`

	fn
addq	0
subq	1
andq	2
xorq	3

jXX Dest — `7 = IJXX` `fn` `Dest` (through byte 8)

	fn
jmp	0
jle	1
jl	2
je	3
jne	4
jge	5
jg	6

call Dest — `8 = ICALL` `0` `Dest` (through byte 8)

ret — `9 = IRET` `0`

pushq rA — `A = IPUSHQ` `0` `rA` `F`

popq rA — `B = IPOPQ` `0` `rA` `F`

Register encoding

0	1	2	3	4	5	6	7
%rax	%rcx	%rdx	%rbx	%rsp	%rbp	%rsi	%rdi

8	9	A	B	C	D	E	F
%r8	%r9	%r10	%r11	%r12	%r13	%r14	No register