Function	OPERATION	MODIFICATION
00	$x' = n$	Last three digits to N
01	$x' = x + n$	
02	$x' = -n$	
03	$x' = x - n$	
04	$x' = n - x$	
05	$x' = x \,\&\, n$	
06	$x' = x \nmid n$	
07		
10	$n' = x$	Last three digits to N
11	$n' = n + x$	
12	$n' = -x$	
13	$n' = n - x$	
14	$n' = x - n$	
15	$n' = n \,\&\, x$	
16	$n' = n \nmid x$	
17		
20	$p' + 2^{-38}q' = nx$	Last three digits to N
21	$p' + 2^{-38}q' = nx + 2^{-39}$	
22	$p' + 2^{-38}q' = nx + p + 2^{-38}q$	
23	$[pq]' = p + 2^{-38}q$ (justify)	
24	$nq' + 2^{-38}p' = x + 2^{-38}q$ { unrounded $0 \leqslant p'/n < 1$	
25	{ rounded $-1/2 \leqslant p'/n < 1/2$	
26	$nq' + 2^{-38}p' = x$ unrounded $0 \leqslant p'/n < 1$	
27		
30		
31		
32		
33		
34		
35		
36		
37		

Function	OPERATION	MODIFICATION
40	$x' = c$	Last ten digits to N
41	$x' = x + c$	
42	$x' = -c$	
43	$x' = x - c$	
44	$x' = c - x$	
45	$x' = x \,\&\, c$	
46	$x' = x \nmid c$	
47		
50	$x' = 2^N x$	Last ten digits to N
51	$x' = 2^{-N}x$ (rounded)	
52	shift x up N places	
53	shift x down N places	
54	$p' + 2^{-38}q' = 2^N(p + 2^{-38}q)$	
55	$p' + 2^{-38}q' = 2^{-N}(p + 2^{-38}q)$ (unrounded)	
56	$p' + 2^{-38}q' = 2^{\mu}(p + 2^{-38}q)$ $x' = x - 2^{-38}\mu$ †	
57		
60	Jump to N if $x = 0$	Last ten digits to N
61	Jump to N if $x \neq 0$	
62	Jump to N if $x \geqslant 0$	
63	Jump to N if $x < 0$	
64	Jump to N if overflow stat. clear (or clear overflow stat.)	
65	Jump to N if overflow stat. set (and clear overflow stat.)	
66	$x_m' = x_m + 1$ Jump to N if $x_m' \nmid 0$ (mod. 8)	
67	$x_c' = x_c - 1$ Jump to N if $x_c' \neq 0$	
70	$1' = s$	Whole modifier to N and X
71	$s' = 1$	
72	$u' = b$	First ten digits to N
73	$b' = u$	
74	Energise external-conditioning relays associated with non-zero N-digits.	As for 70 and 71
75	(Interchange if buffer store fitted)	
76	STOP	As for 72 and 73
77		

† $\left.\begin{array}{r} 1/4 \leqslant p' < 1/2 \\ \text{or } -1/2 \leqslant p' < -1/4 \end{array}\right\}$ if $\mu < N-1$ otherwise $-1/4 \leqslant p' < 1/4$ and $\mu = N-1$

FIG. 4.2 THE ORDER CODE