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3rd version of division algorithm –

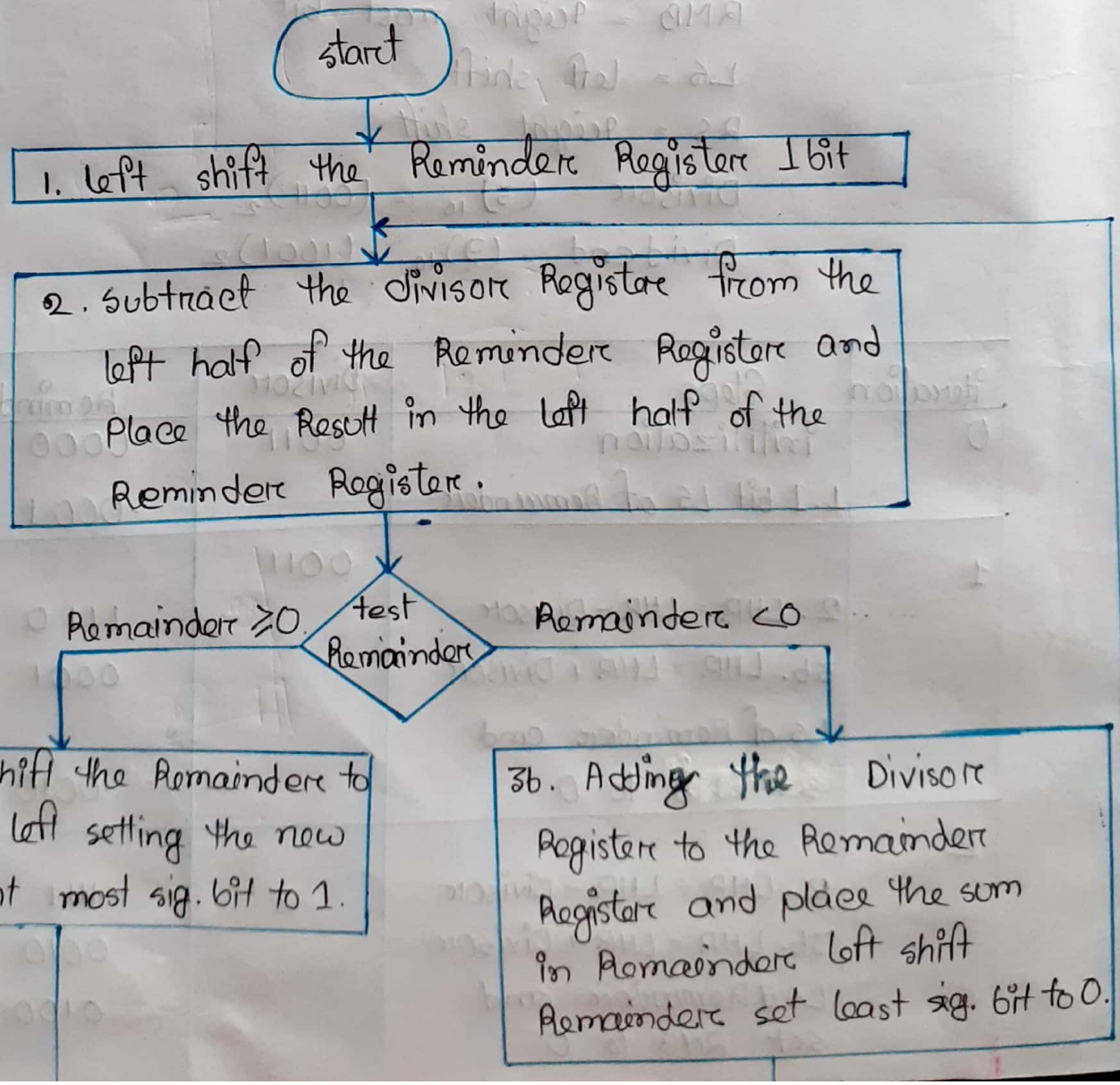
My id is 2010184

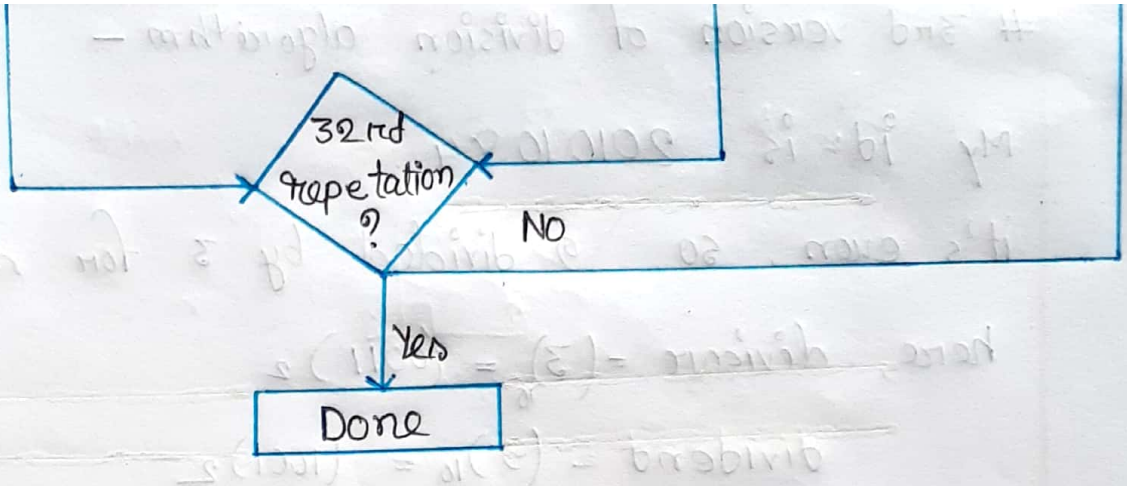
it's even, so, 9 divided by 3 for me

here, divisor $= (3)_{10} = (0011)_2$

dividend $= (9)_{10} = (1001)_2$

now, Algorithm –





now, let, LHR = left half of Remainder
RMB = right most bit
LS = left shift
RS = right shift
Divisor = $(3)_{10}$ = $(0011)_2$
Dividend = $(9)_{10}$ = $(1001)_2$

Iteration	Steps	Divisor	Reminder
0	Initilization	0011	0000 1001
	1. 1 bit LS of Remainder		0001 0010
1	2. LHR = LHR - Divisor	0011	1110 0010
	3b. LHR = LHR + Divisor		0001 0010
	LS of Reminder and set RMB to 0		0010 0100
2	2. LHR = LHR - Divisor		1111 0100
	3b. LHR = LHR + Divisor		0010 0100
	LS of Reminder and set RMB to 0.		0100 1000

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Iteration	Steps	Divisor	Remainder
3	2. LHR = LHR - Divisor 3a. LS of Remainder and set RMB to 1.		0001 1000 0011 0001
4	2. LHR = LHR - Divisor 3a. LS of Remainder and set RMB to 1.		0000 0001 0000 0011

here, after the 4th iteration, ~~the~~

LHR = Remainder = $(0000)_2 = (0)_{10}$

RHR = Quotient = $(0011)_2 = (3)_{10}$

given, $9 \div 3 = 3 = (0011)_2$

no Remainder, so, $0 = (0000)_2$.

[Proved]