Expt. No. 02.

Date 22/03/2023

Page No.

Experiment No. 02

(A) Aim: Write a program to multiply two 8-bit numbers stored in consecutive memory locations, by repetitive addition.

PROGRAM:

Address	Mnemonics	Comments
	Start	
2000H	LXI H, 2050H	Storing memory location
2001H	MOV B, M	Moving data to B
2002H	INX H	Increment H-L Pair address
2003H	MOV C, M	Moving data to C
2004H	MVI A, 00	assign 00 to A
2005H	TOP : ADD B	Add Acc. with B
2006H	DCR C	decrement register C
2007H	JNZ TOP	Jump to TOP, if C ≠ 0
2008H	INX H	Increment H-L pair address
2009H	MOV M, A	Move result from A to memory
	HLT	

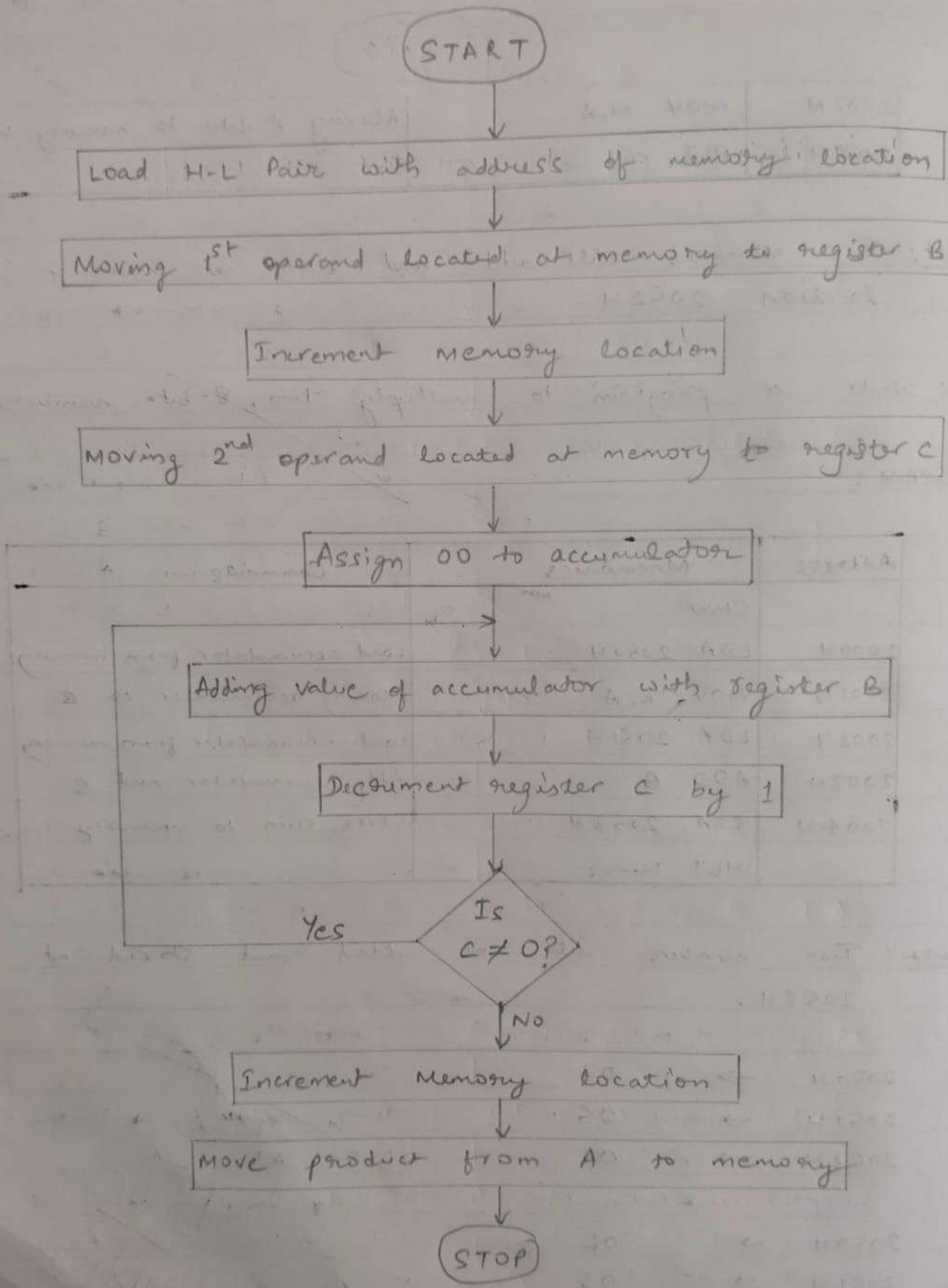
2050H → 3

2051H → 5

2052H → 15

Result: The two numbers will be multiplied and stored at 2052H.

Teacher's Signature :



Flow digram for multiplication of two 8-bit numbers.

Expt. No. _____ Date _____

Page No. _____

(B) Aim: Write a program to divide two 8 bit numbers stored in consecutive memory locations.

PROGRAM:

Address	Mnemonics	Comments
	Start	
2000H	LXI H, 2050H	Storing memory location
2001H	MOV B, M	Moving divisor data in B
2002H	MVI C, 00	Assign 00 to C
2003H	INX H	Increment H-L pair address
2004H	MOV A, M	Moving dividend data into A
2005H	NXT: CMP B	Compare B with accumulator
2006H	JC LOOP	Jump to Loop, if CY = 1
2007H	SUB B	Subtract B from A
2008H	INR C	Increment C by one
2009H	JMP NXT:	Jump to NXT
2010H	LOOP: STA 2054H	Store remainder in 2054H from A
2011H	MOV A, C	Move quotient data from C to A
2012H	STA 2053H	Store quotient in 2053H from A
	HLT	

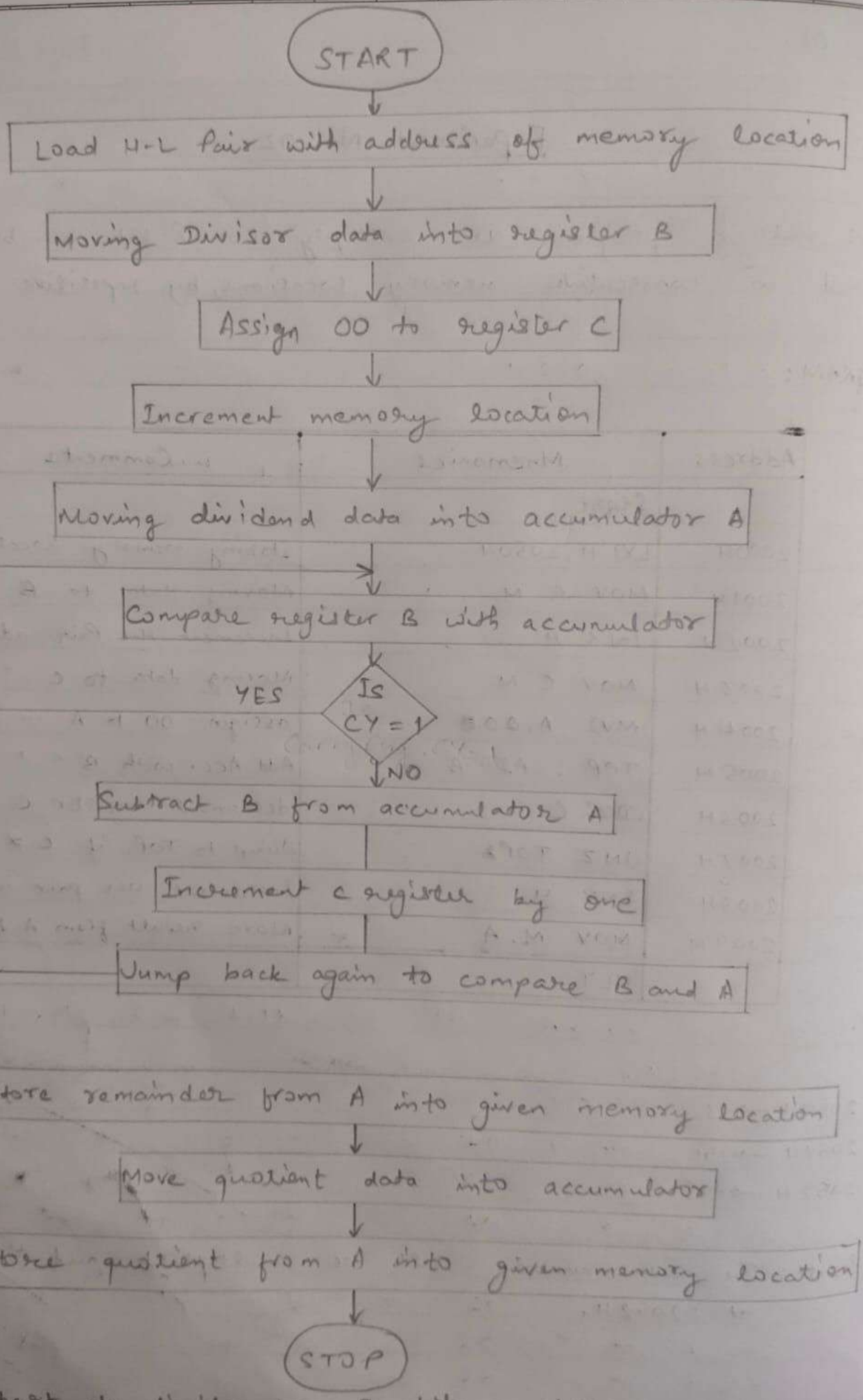
2050H ⟶ 5 = Divisor

2051H ⟶ 17 = Dividend

2053H ⟶ 3 = Quotient

2054H ⟶ 2 = Remainder

Teacher's Signature : _____



Flow chart to divide two 8-bit numbers.

Expt. No. _____ Page No. _____

Result: The two numbers will be divided and their quotient will be stored in 2053H and remainder in 2054H.

Teacher's Signature : _____