Experiment-2

Aim :- Write a program to add Two numbers to get
(a) 8-bit sum (b) 16-bit sum

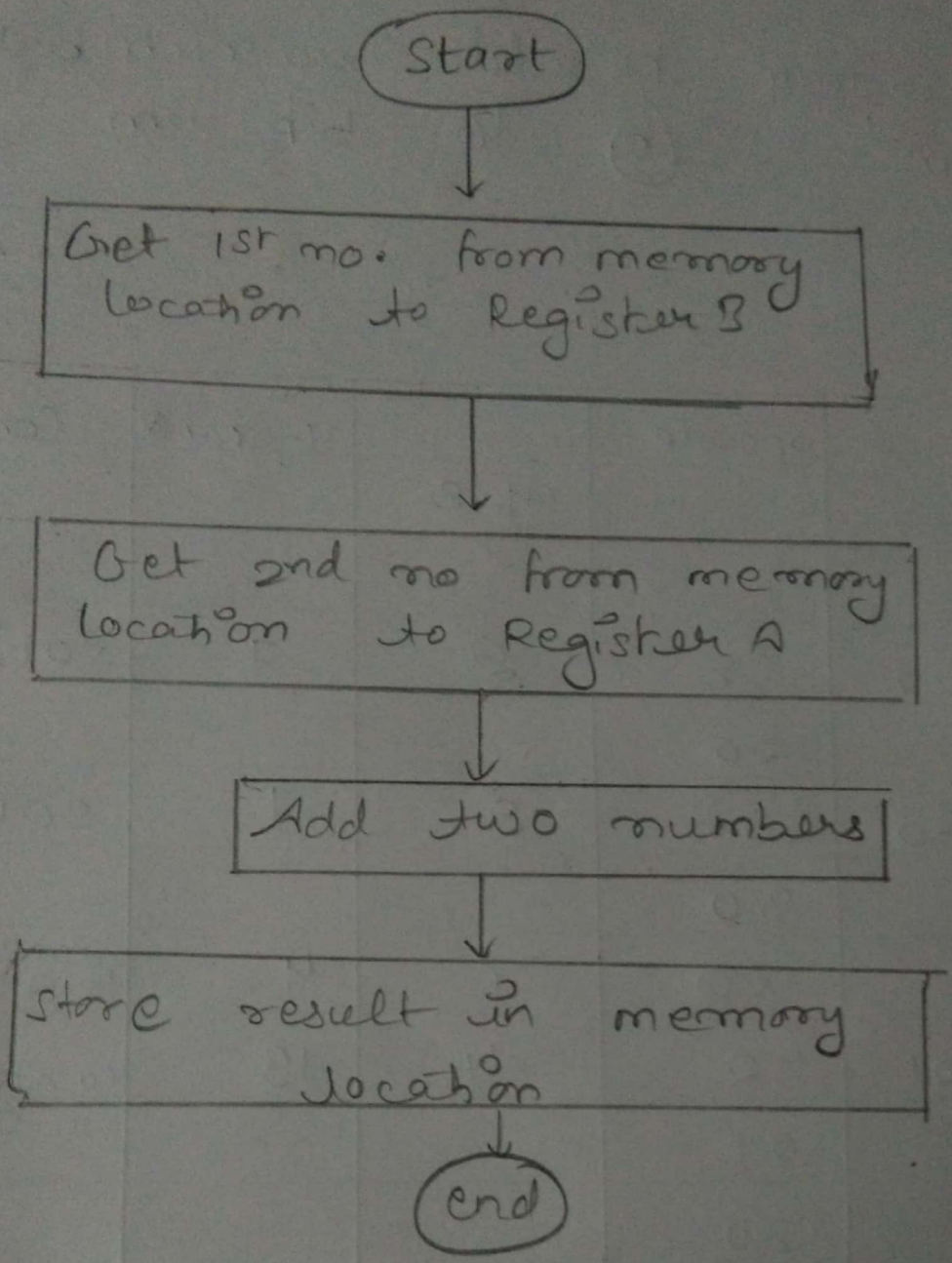
For 8-bit

Memory address	Mnemonics	operand	opcode	cycles	T-states	Comments
2000	MVI	A, 20	3E	2	7	20 is moved to A
2001			20			
2002	MVI	B, 30	06	2	7	30 is moved to B
2003			30			
2004	ADD	B	80	1	4	contents of B added to A result str in A
2005	STA	3001	32	4	13	contents of A stored in 3001
2006			01			
2007			30			
2008	HLT		76	2	5	

Result :-

Memory Address	Before Execution	After Execution
2001	20	20 H
2003	30	30 H
3001		50 H

Scanned by CamScanner



Scanned by CamScanner

For 16-Bit :-

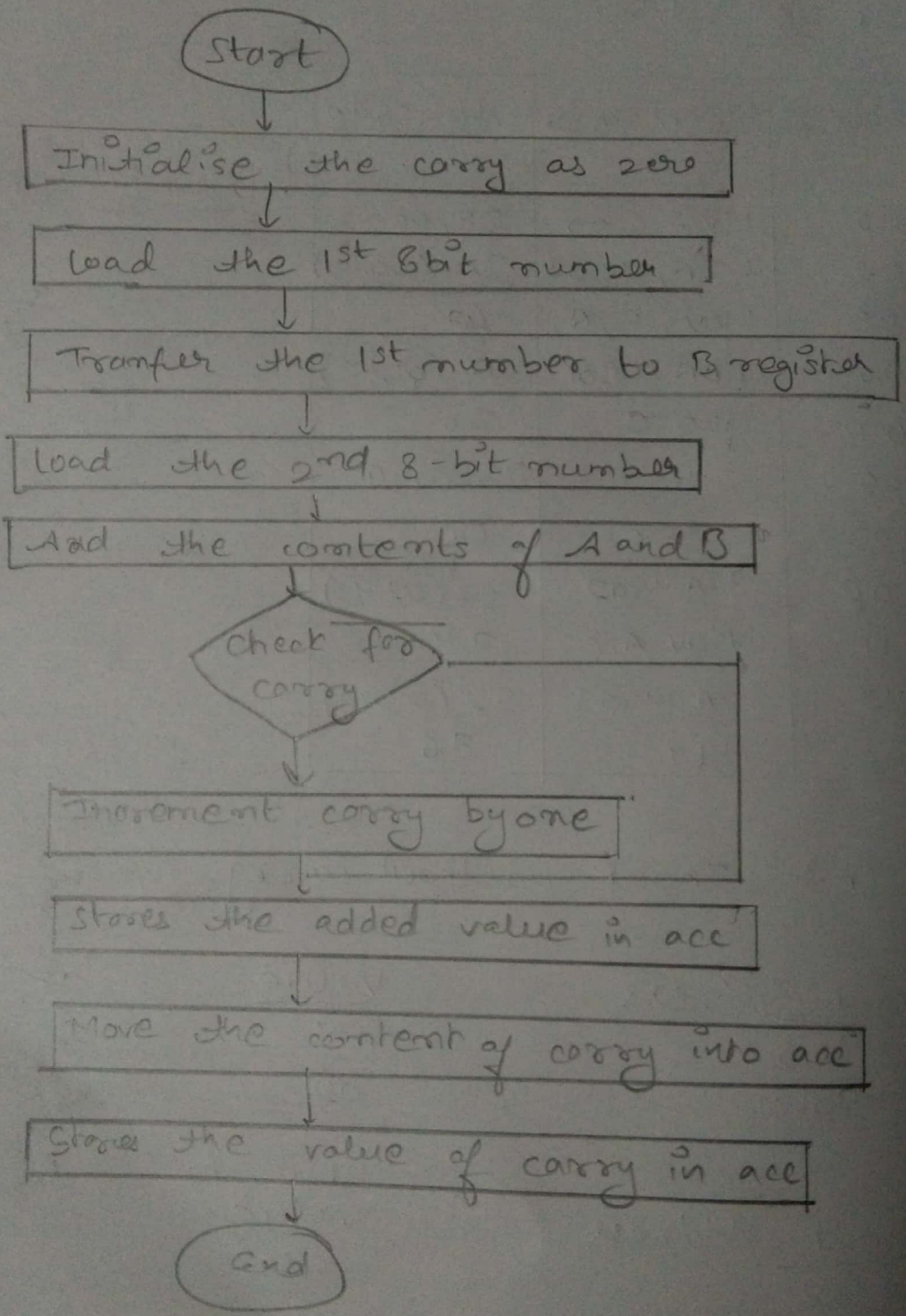
Address	Mnemonics	Hex code
4100	MVI C, 00	DE, 00
4102	LDA, 4300	3A, (00,43)
4105	MOV, B, A	47
4106	LDA 4301	3A, (01,43)
4109	ADD B	80
410A	JNC	D2, 0E, 41
410D	INR C	DC
410E	STA 4302	32 (02,43)
4111	MOV A, C	79
4112	STA 4303	32 (03,43)
4115	HLT	76

Result :- Input without carry.

Input Address	Value
4300	04
4301	02

Output Address	value
4302	06
4303	00 (carry)

Scanned by CamScanner



Scanned by CamScanner

With carry

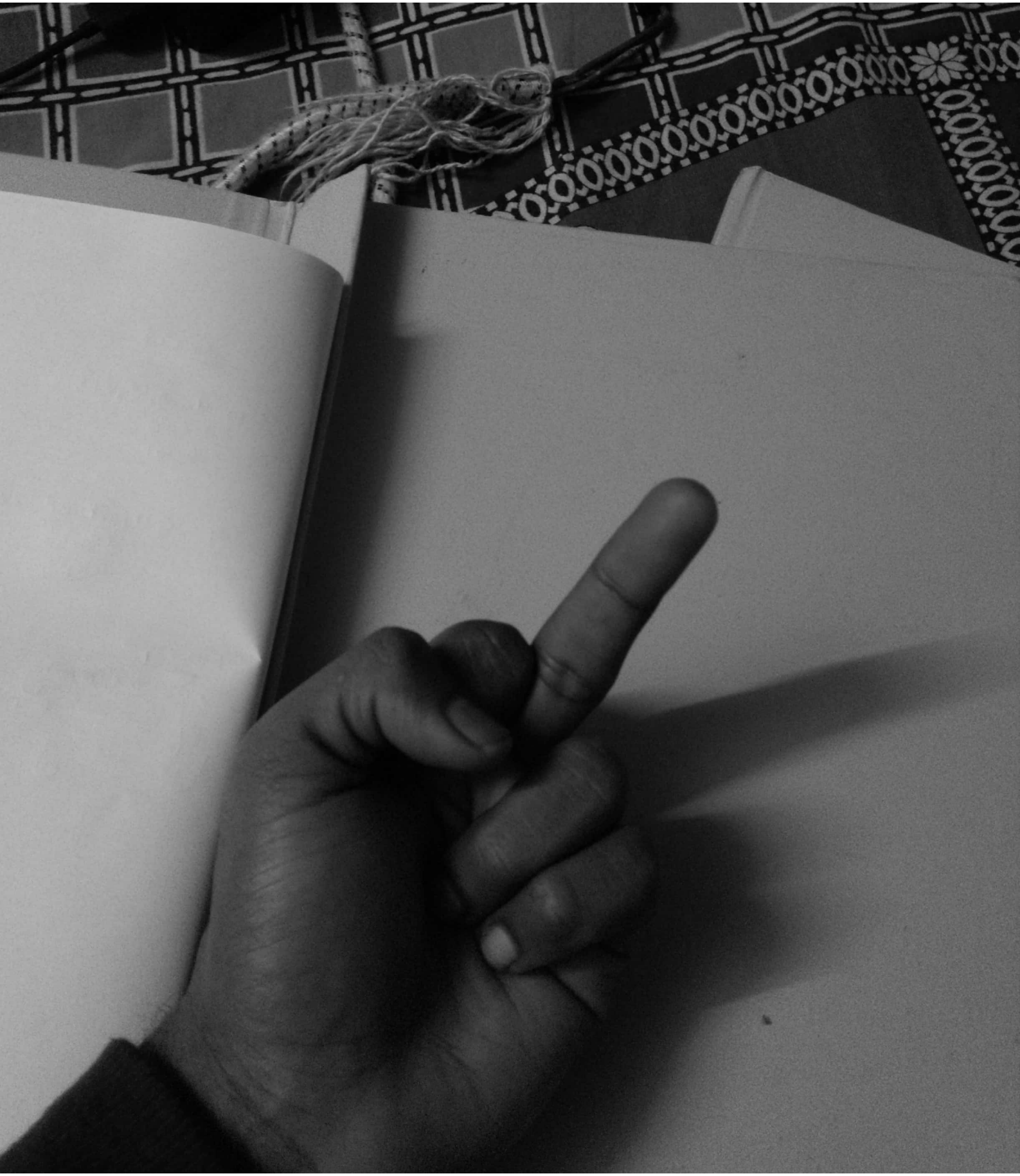
Input Address	Value
4300	FF
4301	FF

Output address	
4302	FE
4303	01 (Carry)

Result:-

The assembly language program for 8-bit addition of 2 nos. has executed successfully by using 8085 micro-processing kit.

Scanned by CamScanner



Scanned by CamScanner