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LCM AND HCF

AIM:

To find LCM and HCF of two 8 bit numbers.

memory		Label	Instruction	Comments
8000	90: 81:00		MOV DPTR, #8100H	Move DPTR to 8100 H
8003	E0		MOVX A, @DPTR	Move data from DPTR to A
8004	F5 : F0		MOV B, A	Move content from A to B
8006	FA		MOV R2, A	Copy content from A to R2.
8007	A3		INC DPTR	Increment DPTR
8008	E0		MOVX A, @DPTR	Move data from DPTR to A.
8009	FB		MOV R3, A	Copy content of A to R3
800A	A9: F0	LOOP	MOV R1, B	Copy content of B to R1
800C	A4: 84		DIV AB,	divide A with B
800D	F5: F0		MOV A, B	move content of B to A
800F	60: 03		JZ DONE	Jump to done if A==0.
8011	E9		MOV A, R1	Move content of R1 to A
8012	80: F6		JMP LOOP	Jump to Loop
8014	A3	DONE	INC DPTR	Increment DPTR
8015	E9		MOV A, R1	Copy content of R1 to A
8016	F0		MOVX @DPTR, A	Move content of A to memory
8017	F5 : F0		MOV B, A	Copy content of A to B.
8019	EA		MOV A, R2	Move content of R2 to A
801A	84		DIV AB	divide A with B
801B	8B : F0		MOV B, R3	Copy content of R3 to B

Problem Specification

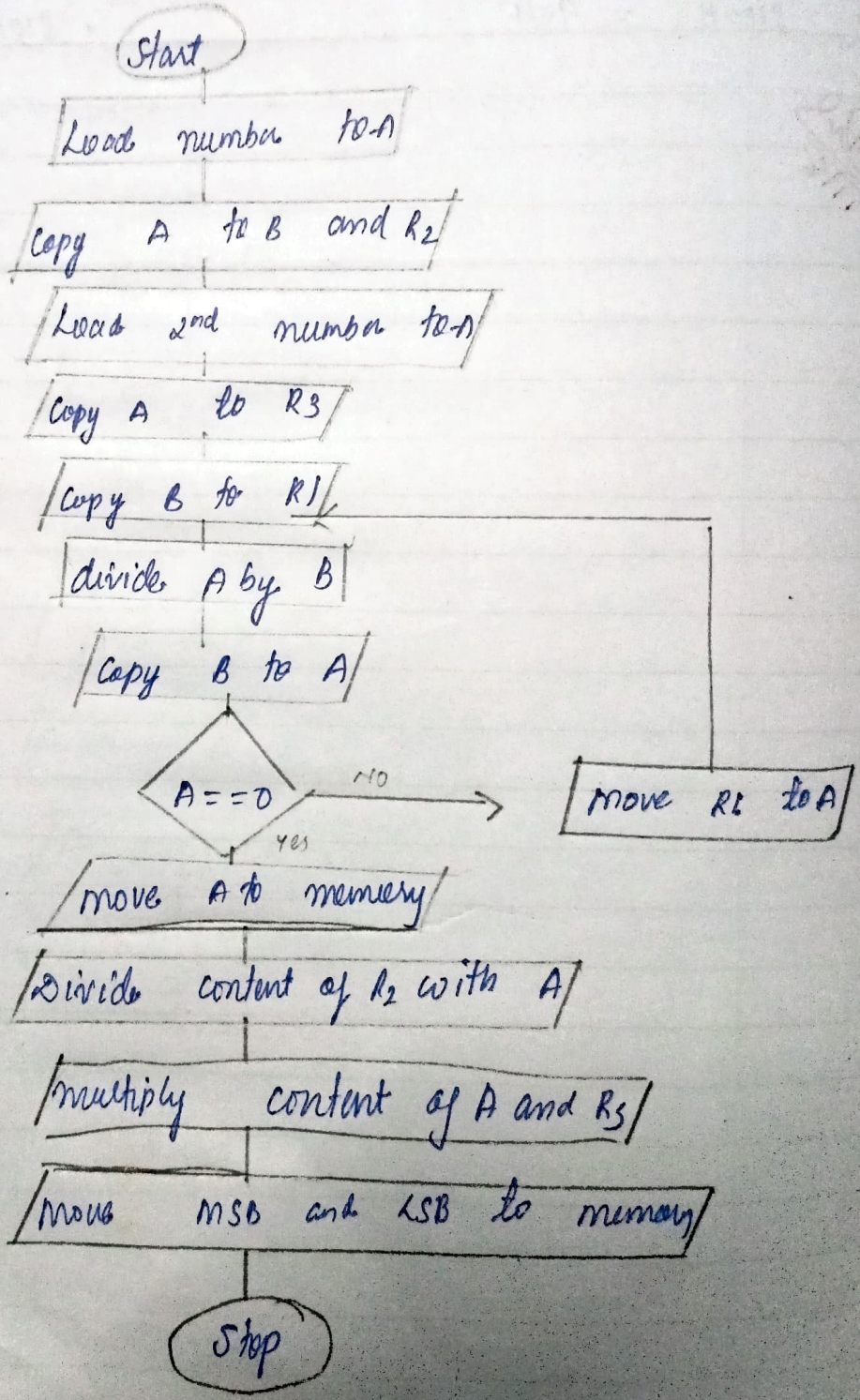
8100 H → num1

8101 H → num2

8102 → HCF

8103 → LCM

Flow chart



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801D	A4		MUL AB	multiply A and B
801E	A3		INC DPTR	increment DPTR
801F	A3		INC DPTR	increment DPTR
8020	F0		MOVX @DPTR, A	move data from A to DPTR
8021	15:82		DEC DPL	decrement DPTR
8023	E5: F0		MOV A,B	move content of B to A
8025	F0		MOVX @DPTR, A	move content of A to DPTR
8026	80FE	HERE	SJMP HERE	end of program

RESULT:

LCM and HCF of 2 8 bit numbers are found and stored in memory.

10/10

OBSERVATION

8100H → 0B

8101H → EE

8102H → 01

8103H → 0A

8104H → 3A