

CONVERSION

1) Aim: To convert a byte from hex to decimal stored at 8100H and store the result, ms Byte in 8101H and ls Byte in 8102H.

PROGRAM:

Memory		Label	Instruction	Comment
8000	90:81:00		MOV D PTR, #8100	Initialize D PTR with 8100H .
8003	e0		MOVX A, @D PTR	Move content from D PTR to A.
8004	75: F0:0A		MOV B, #0A	Load Reg B with 0AH.
8007	84		DIV AB	Divide A by B.
800B	A8: F0		MOV R0, B	Copy to R0 from B
800A	75: F0:0A		MOV B, #0A	^{Load Reg B with 0AH.}
800D	84		DIV DIV AB	Divide A by B.
800E	A9: F0		MOV RI, B	Copy to RI from B.
8010	A3		INC D PTR	Increment D PTR
8011	F0		MOVX @D PTR, A	Move content from Acc. to D PTR.
8012	E9		MOV A, RI	Copy to Acc. from RI
8013	C4		SWAP A	Swap data in Acc.
8014	28		ADD A R0	Add Acc. and R0
8015	A3		INC D PTR	Increment D PTR
8016	F0	✓	MOVX @D PTR, A	Move content from Acc. to D PTR .
8017	80: FE	HERE	SJMP HERE	Jump to 8017 to end the program.

Problem specification

Source	8100 H	
Source data	FF H	
Destination	8101 H (MSB)	8102 H (LSB)

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RESULT:

Input

$$8100H = FFH$$

Output

$$8101H = 02H$$

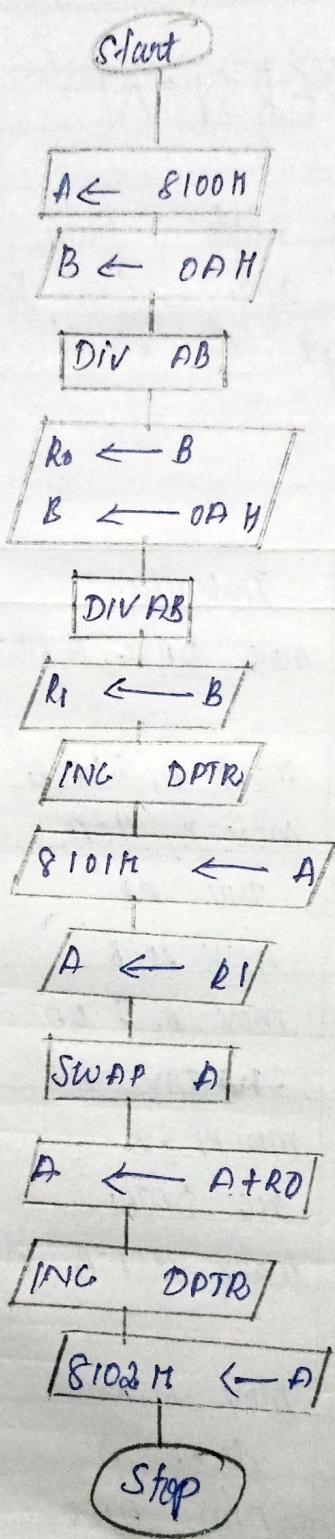
$$8100H = 55H$$

$$8100H = 90H$$

$$8101H = 01H$$

$$8102H = 44H$$

Flow chart



2) AIM: To convert a 2 digit decimal number stored at 8100H to hex representation and store result at 8101H.

PROGRAM:

Memory		Label	Instruction	Comments
8000	C3		CLR C	clear the carry.
8001	90:81:00		MOV DPTR, #8100	Initialize DPTR with 8100H.
8004	E0		MOVA X A, @ DPTR	move content from DPTR to Acc.
8005	F8		MOV R0, A	copy content from Acc. to R0.
8006	5A: F0		ANL A, #F0	Perform AND operation.
8008	C4		SWAP A	Swap the content in Acc.
8009	75:F0:0A		MOV F0, #0A	Load Reg B with 0AH.
8006	A4		MUL AB	Multiply Acc. and Reg B.
800D	F9		MOV R1, A	Copy to R1 from Acc.
800E	E8		MOV A, R0	Copy content to Acc. from R0.
800F	5A: 0F		ANL A, #0F	AND operation b/w Acc. and 0FH.
8011	29		ADD A, R1	Add Acc. and Reg A.
8012	A3		INC DPTR	Increment DPTR.
8013	F0		MOVA X @DPTR, A	move content from Acc. to DPTR.
8014	80: FE	HERE	SJMP HERE	Jump to 8014 to end the program.

Problem specification

Source : 8100 H

Source data : 99

Destination : 8101 H

RESULT:

Input

Output

- $8100H = 10H$
- $8100H = 99H$

- $8101H = 0AH$
- $8101H = 63H$

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Flow chart

