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1 ;EXPT-1:SIMPLE ALP 8051 MICROCONTROLLER
2 ;PROBLEM STSTATEMENT: A two digit BCD number to be stored in location 30h. Write ALP to unpack this BCD
number. Store the MSB in R1 and LSB in R0. Find Product of Both these and store result
3 ;in packed BCD in 31h
4 ;NAME: AADESH U PISE
5 ;ROLL NO- 312041, BATCH: B2
6 ;DATE OF PERFORMANCE: 11/07/18
7
8     ORG 0000H           ;
9     MOV 30h,#46H        ;STORE BCD NUMBER TO 30H LOCATION
10    MOV A,30h           ;A=46H, packed BCD from 30h location
11    ANL A,#0FH          ;MASK THE UPPER nibble (A=06)
12    MOV R0,A            ;LSB IN R0
13    MOV A,30H           ; GET ORIGINAL DATA
14    ANL A,#0F0H         ;MASK LOWER nibble (A=40)
15    RR A                ;ROTATE RIGHT
16    RR A                ;ROTATE RIGHT
17    RR A                ;ROTATE RIGHT
18    RR A                ;ROTATE RIGHT (A=04)
19    MOV R1,A            ;STORE MSB IN R1
20    mov B,R1            ;MSB COPIED TO REGISTER B
21    mov A,R0            ;LSB COPIED TO REGISTER A
22    MUL AB              ;MULTIPLICATION OF LSB AND MSB DONE
23    MOV B,#10           ;store 10 in B
24    DIV AB              ;divide A by B
25    SWAP A              ;we get decimal number stored in a swap it
26    ORL A,B            ;logical or to get packed BCD
27    MOV 31H,A          ;STORE DATA IN 31 LOCATION
28    END
29
30
31
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