

Problem statement: Enter a character. Print it's ASCII code in binary, print It's reverse binary, check if It's reverse is even, print number of 1 in binary value.

Code:

<pre> .MODEL SMALL .STACK 100H .DATA MSG1 DB 'ENTER A CHARACTER:', ODH, 0AH, '\$' MSG_BIN DB 0DH,0AH,'BINARY OF ASCII VALUE OF INPUT CHARACTER: \$' MSG_REV DB 0DH,0AH,'REVERSE BINARY OF ASCII VALUE OF INPUT CHARACTER: \$' ODD DB 0DH, 0AH,'REVERSE BINARY OF INPUT CHARACTER IS: ODD\$' EVEN DB 0DH, 0AH,'REVERSE BINARY OF INPUT CHARACTER IS: EVEN\$' MSG_CNT1 DB 0DH,0AH,'NUMBER OF 1 IN ASCII VALUE: \$' CNT1 DB ? .CODE MAIN PROC ; initialize DS MOV AX, @DATA MOV DS, AX MOV AH, 9 LEA DX,MSG1;INPUT PROMT INT 21H MOV AH, 1 INT 21H ;READ CHAR IN AL MOV BL,AL MOV BH,AL MOV CNT1,'0';INITIALIZE ;DISPALY BINARY MOV AH,9 LEA DX,MSG_BIN INT 21H MOV AH,2 MOV CX,8 </pre>	<pre> BINARY_LOOP: ROL BL,1 ;IF CF==1 JC IF MOV DL,'0' JNC ENDIF: IF: MOV DL,'1' ENDIF: INT 21H LOOP BINARY_LOOP ;DISPALY BINARY REVERSE MOV AH,9 LEA DX,MSG_REV INT 21H MOV AH,2 MOV CX,8 REV_LOOP: ROR BH,1 ;IF CF==1 JC IFR MOV DL,'0' JNC ENDIFR: IFR: MOV DL,'1' ADD CNT1,1;INCREASE NUMBER OF ONE IN ASCII VALUE ENDIFR: INT 21H LOOP REV_LOOP </pre>	<pre> ;EVEN/ODD? MOV AH,9 ROL AL,1;MSB OF MAIN NUM= LSB OF REV-> IF 0: rev is EVEN,ELSE:ODD JNC D_EVEN LEA DX,ODD JC END_C D_EVEN: LEA DX,EVEN END_C: INT 21H ;DISPLAY NUMBER OF ONE IN ASCII VALUE MOV AH,9 LEA DX,MSG_CNT1 INT 21H MOV AH,2 MOV DL,CNT1 INT 21H EXIT: MOV AH, 4CH INT 21H MAIN ENDP END MAIN </pre>
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Output:

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emulator screen (80x25 chars)
ENTER A CHARACTER:
A
BINARY OF ASCII VALUE OF INPUT CHARACTER: 01000001
REVERSE BINARY OF ASCII VALUE OF INPUT CHARACTER: 10000010
REVERSE BINARY OF INPUT CHARACTER IS: EVEN
NUMBER OF 1 IN ASCII VALUE: 2

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