Exp

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LTCE

Aim -

Theory -

To display the contents of flag register push & pop instruction. Each bit of flag register is then masked off with 1 & all 0's (i.e 1000 0000 0000 0000 (16 bit) 8000h) & based on the result of making either 0 (30h) or, (31h) is get displayed on the screen. Each bit of the about 16 bit no. gets shifted in right-direction by 1 position before masking to obtain the next bit position of flag register. This whole procedure gets repeated 16 times.

Algorithm -

Step 1 - Start
Step 2 - Initialize data segment through AX register in the DS register.
Step 3 - Display the flag bit names as "XXXX ODITSF ZF X AF X PE X CF"
Step 4 - Push the contents of flag register to the stack.
Step 5 - Pop the contents of stack to register to any 16-bit register.
Step 6 - Move the contents of BX to temporary

Step 7 - Move the 8000h no. to AX.
Step 8 - Move the count as 16 to CX register.
Step 9 - Move the contents of temporary variable t to BX.
Step 10 - AND the contents of BX & AX.
Step 11 - If zero flag is set then go to the step no. 14 otherwise goto step no. 12
Step 12 - Move the 31h to DL register
Step 13 - Make the unconditional jump to a step no 15.
Step 14 - Move the 30h to DL register
Step 15 - Preserve the number from Ax in th temporary variable.
Step 16 - Display the contents of DL register.
Step 17 - Move the contents of th R to AX register back.
Step 18 - Rotate the contents of Ax by 1 position in right direction.
Step 19 - Repeat step no. 5 to 17 till count CX reaches to '0'.
Step 20 - Stop