

208 P1000-10

Problem: Compare NCR using Recursive procedure  
Assume that N and CH are NON-NEGATIVE INTEGERS.

.MODEL SMALL

.DATA

N DB 05H

CH DB 10H

NCR VAL DW 01H DUP(?)

.CODE

START: MOV AX, @DATA

MOV DS, AX

MOV CL, R ; CL=02H → value of R

MOV CH, N ; CH=05H → value of N

XOR AX, AX ; clear the contents of

AX Register → MOV AX, 01H

CALL NCR

MOV [NCR VAL], AX

MOV AH, 4CH

INT 21H

NCR PROC NEAR

CMP CH, CL

JE EQUAL ; N=CH ? SET 1

JC FINISH ; N < CH ? SET 2 END

CMP CL, 01H ; R=1 ? SET N

JE NEXT

CMP CL, 00H ; R=0? SET 1

JE EQUAL

DEC CH ; CH=4 = N-1

PUSH CX ; CH=04 CL=2

CALL NCR

POP CX

DEC CL

CALL NCR

RET

NEXT : XOR BX, BX ; CLEAR CONTENTS  
of BX REGISTER

MOV BL, CH ; BL=05 → value of N

ADD AX, BX ; 00 + 05 = 05

STORED AS RESULT WHICH  
IS THE VALUE of N

RET

EQUAL : ADD AX, 01H ; AX=01H

FINISH : RET

NCR END P

END START