

To calculate NCR using recursion.

- model small

display macro msg

lea dx, msg

mov ah, 09h

int 21h

endm

- data

msg1 db 0dh, 0ah, "Enter the value of n: "

msg2 db 0dh, 0ah, "Enter the value of r: "

msg3 db 0dh, 0ah, "Calculated successfully: "

msg4 db 0dh, 0ah, "Calculation Failed: "

nrc dw 0

- code

mov ax, @data

mov ds, ax

xor ax, ax

xor bx, bx

display msg1

xor ax, ax

call read

push ax

display msg2

xor ax, ax

call read

mov bx, ax

pop ax

call calc
xor cx, ~~ax~~ cx
mov cx, ecx
mov ebx, ecx
int 21h

calc proc near
cmp ax, bx
je r1
cmp bx, 0
je r1
cmp bx, 1
je r3
dec ax
cmp bx, ax
je r2
push ax
push bx
call calc
pop bx
pop ax
dec bx
push ax
push bx
call calc
pop bx
pop ax
ret

r1 : inc mcr
ret

r2 : inc mcr

r3 : add mcr, ax
ret

read proc next

mov ax, 01h

int 21h

xor ax, ax

sub ax, 30h

ret

end