Assignment 4 part 2

include 'emu8086.inc'

.model small

.code

print 'Number ?'

printn

call input\_num ; take input stored in ax

push ax ; the number is stored in stack

print 'Base ?'

printn

call input\_num ; base is stored in ax

mov bx,ax ; base is stored in bx

pop ax ; actual number is restored in ax

base dw ? ; declare a variable

mov base,10

mov cx,10

convert:

div base ;actual num is divided by base num

push dx ; remainder in dx and stored in the stack

mov dx,0

loop convert

mov cx,10

mov ax,0 ; recovering the decimal number in ax

decimal:

mul bx

mov dx,0

pop dx

add ax,dx

loop decimal

mov cx,10

mov bx,10

mov dx,0

forming\_stack:

div bx

push dx

mov dx,0

loop forming\_stack

mov cx,10

printing:

pop dx

add dx,'0'

mov ah,02h

int 21h

loop printing

mov ax,4c00h

int 21h

input\_num:

print 'Digits? '

mov ah,01h

int 21h ;digits number stored in al

printn

mov cx,0

mov cl,al

sub cl,'0' ; store that number in cx for controlling the loop

print 'Give the number '

mov ax,0 ; initially previous value is set to 0

input:

mov dx,ax ; keeping previous value in dx

mov ah,01h

int 21h ; collecting digit

sub al,'0'

mov bx,0

mov bl,al ; digit is stored in bx

mov ax,dx ; collect previous value

mov dx,10

mul dx ; forming the number multiplying by 10

add ax,bx

loop input

printn

ret