INCLUDE Irvine32.inc

.data

str1 BYTE "Enter a 32 bit number: ",0

str2 BYTE "Greatest common divisor is: ",0

number DWORD ? ;被除數

divisor DWORD ? ;除數

.code

main PROC

mov edx,offset str1

call WriteString ;印出提示字串str1

call ReadInt

mov number ,eax ;讀入number

mov edx,offset str1

call WriteString ;印出提示字串str1

call ReadInt

mov divisor,eax ;讀入divisor

mov eax,number ;number放在eax

mov ebx,divisor ;divisor放在ebx

call GCD

exit

main ENDP

abs PROC ;轉絕對值

cmp eax,0

jl L1

jmp next

L1:

neg eax

next:

ret

abs ENDP

GCD PROC

call abs ;number轉絕對值

push eax

mov eax,ebx

call abs ;divisor轉絕對值

mov ebx,eax

pop eax

L2:

xor edx,edx

div ebx ;輾轉相除法

mov eax,ebx ;除數變為下一次的被除數

mov ebx,edx ;商數變為下一次的除數

cmp ebx,0 ;整除時離開

jg L2

mov edx,offset str2

call WriteString ;印出提示字串str2

call Writedec ;印出GCD

ret

GCD ENDP

END main