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Project 5

CS 2700

org 100h

.data

input db "Enter size of the triangle between 2 and 9: $" ; Message to display, string end="$"

size dw 0 ; How big to make the object stored here

.code

main proc

start:

mov ah, 09h ; function to display string

mov dx, offset input ; offset of string data term with "$"

int 21h ; Interrupt processor to call OS

mov ah, 01h ; DOS get character function #

int 21h ; get a single-character response

sub al,'0' ; Subtract ascii value of character zero

;The first triangle

mov size, ax

mov ah, 0 ; Set up counter for loop

mov cx, ax

mov bx, 1

call newline ; calls newline for line feed and carriage return

lines1:

push cx ; store outer loop value

stars1:

mov ah, 02 ; print asterisk

mov dl,'\*'

int 21h

loop stars1 ; loop the number of times requested

pop cx ; get outer loop value back

call newline ; line feed and carriage return

loop lines1

call newline ;calls newline for line feed and carriage return

;the second triangle

call newline ;carriage return again for spacing

mov ax,size

mov ah, 0 ; Set up counter for loop

mov cx, ax

mov bx, 1 ; Set up counter for inner loops

lines2:

push cx ; store outer loop value

mov cx,bx

stars2:

mov ah, 02 ; print asterisk

mov dl,'\*'

int 21h

loop stars2 ; loop the number of times requested

inc bx

call newline ; line feed and carriage return

pop cx ; get outer loop value back

loop lines2

;third triangle here

mov ax,size

mov ah, 0 ; Set up counter for loop

mov cx, ax

mov bx, 1

call newline ; calls newline for line feed and carriage return

lines3:

push cx ; store outer loop value

mov cx, bx

spacing1:

mov ah, 02h

mov dl, ' '

int 21h

loop spacing1

pop cx

push cx

stars3:

mov ah, 02 ; print asterisk

mov dl,'\*'

int 21h

loop stars3 ; loop the number of times requested

pop cx ; get outer loop value back

inc bx

call newline ; line feed and carriage return

loop lines3

call newline ;calls newline for line feed and carriage return

;the fourth triangle

call newline ;carriage return again for spacing

mov ax,size

mov ah, 0 ; Set up counter for loop

mov cx, ax

mov bx, 1 ; Set up counter for inner loops

lines4:

mov dx, cx

push dx

push cx ; store outer loop value

mov cx, dx

spacing2:

mov ah, 02h

mov dl, ' '

int 21h

loop spacing2

mov cx,bx

stars4:

mov ah, 02 ; print asterisk

mov dl,'\*'

int 21h

loop stars4 ; loop the number of times requested

inc bx

call newline ; line feed and carriage return

pop cx ; get outer loop value back

loop lines4

exit:

mov ax, 4C00h ; function to terminate

int 21h ; Interrupt processor to perform Op

main endp

proc newline

mov ah, 02 ; Go to new line

mov dl, 13

int 21h

mov dl, 10

int 21h

ret

newline endp

end main





