Assignment 7

Create a program that functions as a simple boolean calculator for 32-bit integers. It should display

a menu that asks the user to make a selection from the following list:

1. x AND y

2. x OR y

3. NOT x

4. x XOR y

5. Exit program

When the user makes a choice, call a procedure that displays the name of the operation about to

be performed.

.386

.model flat,stdcall

.stack 4096

WriteString proto

ReadChar proto

Crlf proto

ReadInt proto

ExitProcess proto, dwExitCode:dword

.data

CaseTable BYTE '1'

DWORD x\_AND\_y

EntrySize = ($ - CaseTable)

BYTE '2'

DWORD x\_OR\_y

BYTE '3'

DWORD NOT\_x

BYTE '4'

DWORD x\_XOR\_y

BYTE '5'

DWORD ExitProgram

NumberOfEntries = ($ - CaseTable)/ EntrySize

prompt BYTE "Please select an option", 0

ints BYTE "Please enter 2 hexadecimal values", 0

msg1 BYTE "1. x AND y", 0

msg2 BYTE "2. x OR y", 0

msg3 BYTE "3. NOT x", 0

msg4 BYTE "4. x XOR y", 0

msg5 BYTE "5. Exit Program", 0

choice BYTE 0

.code

main PROC

mov edx, OFFSET prompt

call WriteString

call CRLF

mov edx, OFFSET msg1

call WriteString

call CRLF

mov edx, OFFSET msg2

call WriteString

call CRLF

mov edx, OFFSET msg3

call WriteString

call CRLF

mov edx, OFFSET msg4

call WriteString

call CRLF

mov edx, OFFSET msg5

call WriteString

call CRLF

call ReadChar

mov choice[0], al

mov edx, OFFSET choice

call WriteString

call CRLF

mov ebx, OFFSET CaseTable

mov ecx, NumberOfEntries

L1:

cmp al, [ebx]

jne L2

call NEAR PTR [ebx + 1]

call CRLF

jmp L3

L2:

add ebx, EntrySize

loop L1

L3:

call WriteString

invoke ExitProcess, 0

main ENDP

x\_AND\_y proc

mov edx, OFFSET msg1

ret

x\_AND\_y endp

x\_OR\_y proc

mov edx, OFFSET msg2

ret

x\_OR\_y endp

NOT\_x proc

mov edx, OFFSET msg3

ret

NOT\_x endp

x\_XOR\_y proc

mov edx, OFFSET msg4

ret

x\_XOR\_y endp

ExitProgram proc

mov edx, OFFSET msg5

ret

ExitProgram endp

end