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; CS 371 Assignment 1
; Ben Pazienza
; This file contains a program computes a*x^2 + b*x + c using values
; from the data segment



       include 371-prologue.inc                ; suck in standard prologue



       .const
    BUFFER_LENGTH equ 50
       .data
    a_msg byte "Enter value for a: ", CR, LF, 0
    b_msg byte "Enter value for b: ", CR, LF, 0
    c_msg byte "Enter value for c: ", CR, LF, 0
    x_msg byte "Enter value for x: ", CR, LF, 0
    msg byte "The answer is %d", 10, 0
    unsigned_integer_format byte "%lu", 0           ;doubleword to ASCII

       .data?
    buffer byte ?
    a dword ?
    b dword ?
    c1 dword ?
    x dword ?

    result dword ?

       .code
main   proc

       push offset a_msg        ;prompt user for value for a
       call StdOut
       push BUFFER_LENGTH
       push offset a
       call StdIn
       push offset a
       call atodw
       mov a, eax


       push offset b_msg        ;prompt user for value for b
       call StdOut
       push BUFFER_LENGTH
       push offset b
       call StdIn
       push offset b
       call atodw
       mov b, eax


       push offset c_msg        ;prompt user for value for c
       call StdOut
       push BUFFER_LENGTH
       push offset c1
       call StdIn
       push offset c1
       call atodw
       mov c1, eax


       push offset x_msg        ;prompt user for value for x
       call StdOut
       push BUFFER_LENGTH
       push offset x
       call StdIn
```



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       push offset x
       call atodw
       mov x, eax

       mov eax, x       ; calculate ax^2 (stores in eax)
       imul eax, eax
       imul eax, a
       mov result, eax

       mov eax, x       ; calculates bx (adds to eax)
       imul eax, b
       add eax, result
       mov result, eax

       mov eax, c1       ; adds c to ax^2+bx
       add eax, result

       push eax
       push offset unsigned_integer_format
       push offset result
       call wsprintf
       add esp, 12

       push offset result
       call StdOut

       push 0                                  ; alternate standard exit
       call ExitProcess                        ; using library exit call
main   endp
       end  main

;EIP before: 00401000
;EIP after:  004010E9
;This difference could be because Memory locations 00401000 - 004010E9 were
;used in the process of running this program
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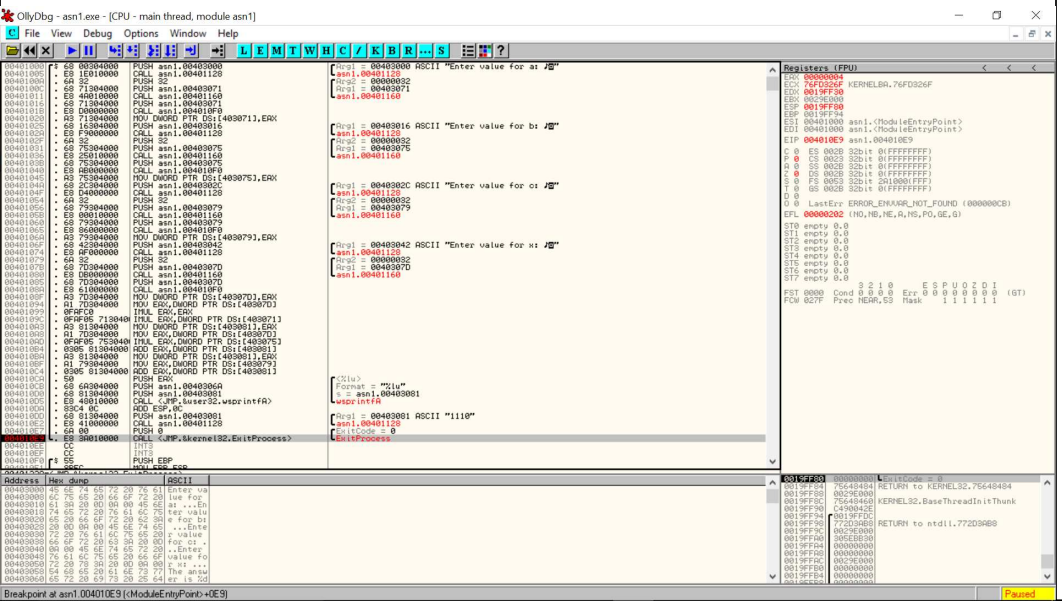
OllyDbg - asn1.exe - [CPU - main thread, module asn1]
File View Debug Options Window Help
Registers (FPU)
Address Hex dump ASCII
Breakpoint at asn1.004010E9 (<ModuleEntryPoint>+0E9)
Paused