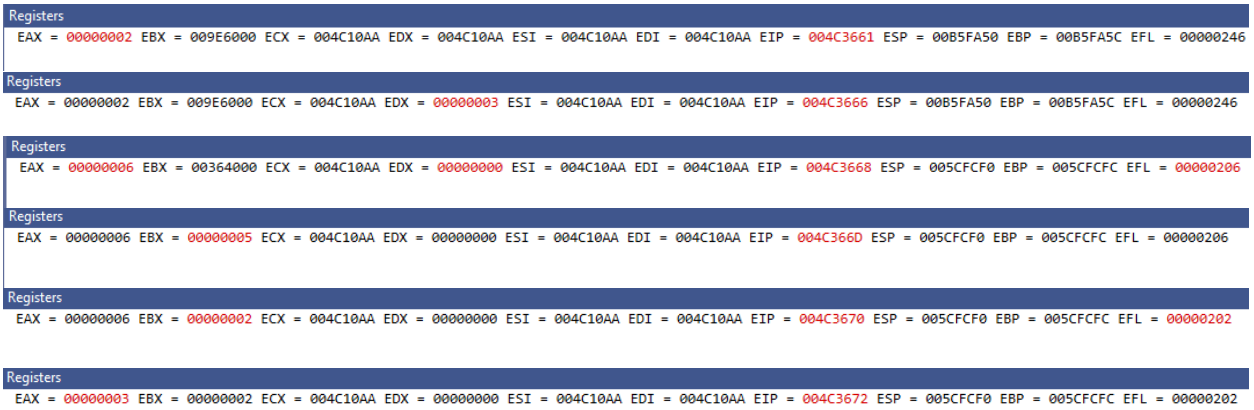
https://youtu.be/svBlLQl7xoA

Part A

```
; Program Template (lab8pA.asm)
; Program Description:
 ; Author: Timothy Bryant
 ; Creation Date: 3/8/2021
 ; Revisions:
 ; Date:
 ; Modified by:
  .386
 .model flat,stdcall
 .stack 4096
 ExitProcess PROTO, dwExitCode:DWORD
 INCLUDE Irvine32.inc

 .data
 ; declare variables here
 val2 = 2h ;intialize val2
 val3 = 3h ;intialize val3
 val4 = 5h ;intialize val4

 .code
 main PROC
 ;write your code here

 ;32 bit
 mov eax, DWORD PTR val2 ;move val2 into eax as 32 bit
 mov edx, DWORD PTR val3 ;move val3 into ebx as 32 bit
 mul edx                 ;multiple val2 and val3
 mov ebx, DWORD PTR val4 ;move val4 into ebx as 32 bit
 sub ebx, 3h             ;subtract 3 from val4
 div ebx                 ;divide eax by ebx

 ;16 bit
 mov eax, WORD PTR val2
 mov edx, WORD PTR val3
 mul edx
 mov ebx, WORD PTR val4
 sub ebx, 3h
 div ebx

 ;8 bit
 mov eax, BYTE PTR val2
 mov edx, BYTE PTR val3
 mul edx
 mov ebx, BYTE PTR val4
 sub ebx, 3h
 div ebx

 call DumpRegs

 INVOKE ExitProcess,0
 main ENDP
 ; (insert additional procedures here)
```

```
 END main
```



Part B

```
; Program Template (lab8pB.asm)
; Program Description:
 ; Author: Timothy Bryant
 ; Creation Date: 3/9/2021
 ; Revisions:
 ; Date:
 ; Modified by:
  .386
 .model flat,stdcall
 .stack 4096
 ExitProcess PROTO, dwExitCode:DWORD
 INCLUDE Irvine32.inc

 .data
 ; declare variables here

 aValue BYTE "Result of val1:  ", 0      ;string for result
 bValue BYTE "Enter val2: ", 0           ;string for val2 prompt
 cValue BYTE "Enter val3: ", 0           ;string for val3 prompt
 dValue BYTE "Enter val4: ", 0           ;string for val4 prompt

 val1 DWORD ?                            ;intialize val1
 val2 DWORD ?                            ;intialize val2
 val3 DWORD ?                            ;intialize val3
 val4 DWORD ?                            ;intialize val4

 .code
 main PROC
 ;write your code here

 ;prompt for val2
 mov edx, OFFSET bValue
 call WriteString
 call ReadInt
 mov val2, eax

 ;prompt for val3
 mov edx, OFFSET cValue
 call WriteString
 call ReadInt
 mov val3, eax
```

```
;prompt for val4
mov edx, OFFSET dValue
call WriteString
call ReadInt
mov val4, eax

;equation
mov eax, val2
mov edx, val3
mul edx
mov ebx, val4
sub ebx, 3h
div ebx
mov val1, eax

;output val1
mov edx, OFFSET aValue
call WriteString
mov eax, val1
call WriteInt

call DumpRegs

INVOKE ExitProcess,0
main ENDP
; (insert additional procedures here)
END main
```

```
Registers
EAX = 00000008 EBX = 00E36000 ECX = 00BD10AA EDX = 00BD6012 ESI = 00BD10AA EDI = 00BD10AA EIP = 00BD366B ESP = 00DAF83C EBP = 00DAF848 EFL = 00000202

0x00BD603D = 00000000
```

```
Registers
EAX = 00000002 EBX = 00E36000 ECX = 00BD10AA EDX = 00BD601F ESI = 00BD10AA EDI = 00BD10AA EIP = 00BD367F ESP = 00DAF83C EBP = 00DAF848 EFL = 00000202

0x00BD6041 = 00000000
```

```
Registers
EAX = 00000005 EBX = 00E36000 ECX = 00BD10AA EDX = 00BD602C ESI = 00BD10AA EDI = 00BD10AA EIP = 00BD3693 ESP = 00DAF83C EBP = 00DAF848 EFL = 00000206

0x00BD6045 = 00000000
```

```
Registers
EAX = 00000005 EBX = 00E28000 ECX = 00BD10AA EDX = 00BD602C ESI = 00BD10AA EDI = 00BD10AA EIP = 00BD3698 ESP = 0116FCBC EBP = 0116FCC8 EFL = 00000206

0x00BD603D = 00000008
```

```
Registers
EAX = 00000008 EBX = 00E28000 ECX = 00BD10AA EDX = 00BD602C ESI = 00BD10AA EDI = 00BD10AA EIP = 00BD369D ESP = 0116FCBC EBP = 0116FCC8 EFL = 00000206

0x00BD6041 = 00000002
```

```
Registers
EAX = 00000008 EBX = 00E28000 ECX = 00BD10AA EDX = 00000002 ESI = 00BD10AA EDI = 00BD10AA EIP = 00BD36A3 ESP = 0116FCBC EBP = 0116FCC8 EFL = 00000206
```

```
Registers
EAX = 00000010 EBX = 00E28000 ECX = 00BD10AA EDX = 00000000 ESI = 00BD10AA EDI = 00BD10AA EIP = 00BD36A5 ESP = 0116FCBC EBP = 0116FCC8 EFL = 00000202

0x00BD6045 = 00000005
```

```
Registers
EAX = 00000010 EBX = 00000005 ECX = 00BD10AA EDX = 00000000 ESI = 00BD10AA EDI = 00BD10AA EIP = 00BD36AB ESP = 0116FCBC EBP = 0116FCC8 EFL = 00000202
```

```
Registers
EAX = 00000010 EBX = 00000002 ECX = 00BD10AA EDX = 00000000 ESI = 00BD10AA EDI = 00BD10AA EIP = 00BD36AE ESP = 0116FCBC EBP = 0116FCC8 EFL = 00000202
```

Registers

```
EAX = 00000008 EBX = 00000002 ECX = 00BD10AA EDX = 00000000 ESI = 00BD10AA EDI = 00BD10AA EIP = 00BD36B0 ESP = 0116FCBC EBP = 0116FCC8 EFL = 00000202

0x00BD6039 = 00000000
```

Registers

```
EAX = 00000008 EBX = 00000002 ECX = 00BD10AA EDX = 00BD6000 ESI = 00BD10AA EDI = 00BD10AA EIP = 00BD36C4 ESP = 0116FCBC EBP = 0116FCC8 EFL = 00000202
```