Midterm 2

Due Nov 4, 2021 at 11:59pm **Points** 102 **Questions** 34
Available Nov 3, 2021 at 11:59pm - Nov 18, 2021 at 11:59pm
Time Limit 75 Minutes

Instructions

Dear Class,

Midterm 2 is available from 00:00 am to 11:59 pm (24 hours) on Nov 4th central time. You may start anytime during this period, but you have only one attempt and 75 minutes to finish once started. There are 102 points available.

Good luck!

Your TAs

This quiz is no longer available as the course has been concluded.

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	42 minutes	102 out of 102

Correct answers are hidden.

Score for this quiz: **102** out of 102
Submitted Nov 4, 2021 at 10:40am
This attempt took 42 minutes.

Question 1 — 3 / 3 pts

Use the following code for the questions
Fill in the blanks with the proper instructions to solve the equation (A - B)

+ (C - D) and store the result in the EAX
register.

```
.DATA
varA BYTE 5
varB BYTE 2
varC BYTE 10
varD BYTE 5
.CODE
main PROC
___1___
move EBX, 0
___2___
___3___
___4___
___5___
___6___
INVOKE ExitProcess, 0
main ENDP
END main
```

Which line of code should be in blank 1?

- (●) MOV EAX, 0
- ( ) MOV EAX, varA
- ( ) MOV EBX, 0
- ( ) MOV EBX, varB
- ( ) MOV EBX, varA

Question 2

3 / 3 pts

Use the following code for the questions
Fill in the blanks with the proper instructions to solve the equation (A - B) + (C - D) and store the result in the EAX
register.

```
.DATA
varA BYTE 5
varB BYTE 2
varC BYTE 10
varD BYTE 5
.CODE
main PROC
___1___
move EBX, 0
___2___
___3___
___4___
___5___
___6___
INVOKE ExitProcess, 0
main ENDP
END main
```

Which line of code should be in blank 2?

- MOV EBX, 0
- MOV EAX, varA
- MOV AL, varA
- MOV AX, varA
- MOV EAX, 0

Question 3

3 / 3 pts

Use the following code for the questions
Fill in the blanks with the proper instructions to solve the equation (A - B) + (C - D) and store the result in the EAX
register.

```
.DATA
varA BYTE 5
varB BYTE 2
varC BYTE 10
varD BYTE 5
.CODE
main PROC
___1___
move EBX, 0
___2___
___3___
___4___
___5___
___6___
INVOKE ExitProcess, 0
main ENDP
END main
```

Which line of code should be in blank 3?

- ADD EAX, varA
- MOV EBX, varB
- MOV BL, varB
- SUB AL, varB
- SUB EBX, varA

Question 4

3 / 3 pts

Use the following code for the questions
Fill in the blanks with the proper instructions to solve the equation (A - B) + (C - D) and store the result in the EAX
register.

```
.DATA
varA BYTE 5
varB BYTE 2
varC BYTE 10
varD BYTE 5
.CODE
main PROC
___1___
move EBX, 0
___2___
___3___
___4___
___5___
___6___
INVOKE ExitProcess, 0
main ENDP
END main
```

Which line of code should be in blank 4?

- MOV AH, varC
- ADD AL, varC
- ADD EBX, varB
- MOV BH, varB
- MOV BL, varC

Question 5

3 / 3 pts

Use the following code for the questions
Fill in the blanks with the proper instructions to solve the equation (A - B) + (C - D) and store the result in the EAX
register.

```
.DATA
varA BYTE 5
varB BYTE 2
varC BYTE 10
varD BYTE 5
.CODE
main PROC
___1___
move EBX, 0
___2___
___3___
___4___
___5___
___6___
INVOKE ExitProcess, 0
main ENDP
END main
```

Which line of code should be in blank 5?

- (●) SUB BL, varD
- ( ) SUB AL, varC
- ( ) MOV EBX, varD
- ( ) SUB BH, varC
- ( ) MOV AH, varC

Incorrect

Question 6

3 / 3 pts

Use the following code for the questions
Fill in the blanks with the proper instructions to solve the equation (A - B) + (C - D) and store the result in the EAX
register.

```
.DATA
varA BYTE 5
varB BYTE 2
varC BYTE 10
varD BYTE 5
.CODE
main PROC
___1___
move EBX, 0
___2___
___3___
___4___
___5___
___6___
INVOKE ExitProcess, 0
main ENDP
END main
```

Which line of code should be in blank 6?

- SUB AL, varD
- ADD EAX, EBX
- ADD AH, varD
- ADD AL, BL

Both B and D are correct.

- MOV EAX, EBX

Question 7

3 / 3 pts

The compiler automatically executes two steps behind a “for” loop:

(1) ECX <- ECX -1; (2) to determine if ECX = 0. The following five lines of code are here to implement the two steps above. (Assume there are FIVE iterations)

```
main PROC
examLoop:
___7___ ; clear ECX with ZERO
MOV ECX, 5 ; initialize ECX with 5
___8___ ; ECX <- ECX -1
___9___ ; to determine if ECX = 0
___10___; if not equal to 0, repeat four steps above
INVOKE ExitProcess, 0
main ENDP
```

Which line of code should be in the line 7?

- MOV 0, ECX
- MOV CX, 0h
- XOR ECX, ECX
- SUB ECX, ECX
- Both C and D are correct

Question 8

3 / 3 pts

The compiler automatically executes two steps behind a “for” loop:

(1) ECX <- ECX -1; (2) to determine if ECX = 0. The following five lines of code are here to implement the two steps above. (Assume there are FIVE iterations)

```
main PROC
examLoop:
___7___ ; clear ECX with ZERO
MOV ECX, 5 ; initialize ECX with 5
___8___ ; ECX <- ECX -1
___9___ ; to determine if ECX = 0
___10___; if not equal to 0, repeat four steps above
INVOKE ExitProcess, 0
main ENDP
```

Which line of code should be in the line 8?

- SUB ECX, -1
- MOV -1, ECX
- DEC ECX
- ADD ECX, 1
- Both A and C are correct

Question 9

3 / 3 pts

The compiler automatically executes two steps behind a “for” loop:

(1) ECX <- ECX -1; (2) to determine if ECX = 0. The following five lines of code are here to implement the two steps above. (Assume there are FIVE iterations)

```
main PROC
examLoop:
___7___ ; clear ECX with ZERO
MOV ECX, 5 ; initialize ECX with 5
___8___ ; ECX <- ECX -1
___9___ ; to determine if ECX = 0
___10___; if not equal to 0, repeat four steps above
INVOKE ExitProcess, 0
main ENDP
```

Which line of code should be in the line 9?

- MOV ECX, 0
- MOV CX, 0h
- TEST ECX, ECX
- CMP ECX, 0h
- Both C and D are correct

Question 10

3 / 3 pts

The compiler automatically executes two steps behind a “for” loop:

(1) ECX <- ECX -1; (2) to determine if ECX = 0. The following five lines of code are here to implement the two steps above. (Assume there are FIVE iterations)

```
main PROC
```

examLoop:
___7___ ; clear ECX with ZERO
MOV ECX, 5 ; initialize ECX with 5
___8___ ; ECX <- ECX -1
___9___ ; to determine if ECX = 0
___10___; if not equal to 0, repeat four steps above
INVOKE ExitProcess, 0
main ENDP

Which line of code should be in the line 10?

- JZ examLoop
- JNZ examLoop
- JMP examLoop
- All of the above
- None of the above

Question 11

3 / 3 pts

Use the following code for the next five questions.
This program should place the sum of the numbers from 1 to n in the EAX register. E.g. if n is 5 then 15
(1+2+3+4+5) should be in EAX.
.DATA
n DWORD 5

.CODE
main PROC
___1___
___2___
___3___
___4___

___5___
INVOKE ExitProcess, 0
main ENDP
END main

Which line of code should be in blank 1?

- (●) MOV EAX, 0
- ( ) MOV ECX, 0
- ( ) MOV CL, n
- ( ) MOV AL, n
- ( ) MOV ECX, 4

Question 12

3 / 3 pts

Use the following code for the next five questions.
This program should place the sum of the numbers from 1 to n in the EAX register. E.g. if n is 5 then 15
(1+2+3+4+5) should be in EAX.
.DATA
n DWORD 5

.CODE
main PROC
___1___
___2___
___3___
___4___
___5___
INVOKE ExitProcess, 0
main ENDP
END main

Which line of code should be in blank 2?

- MOV EAX, 0
- MOV ECX, 0
- MOV ECX, n
- MOV CX, n
- MOV AX, n

Question 13

3 / 3 pts

Use the following code for the next five questions.
This program should place the sum of the numbers from 1 to n in the EAX register. E.g. if n is 5 then 15
(1+2+3+4+5) should be in EAX.

```
.DATA
n DWORD 5

.CODE
main PROC
___1___
___2___
___3___
___4___
___5___
INVOKE ExitProcess, 0
main ENDP
END main
```

Which line of code should be in blank 3?

- ADD EAX, ECX

- S:
- ADD, EAX, 1
- ADD EAX, n
- ADD EAX, ECX + n

Question 14

3 / 3 pts

Use the following code for the next five questions.
This program should place the sum of the numbers from 1 to n in the EAX register. E.g. if n is 5 then 15
(1+2+3+4+5) should be in EAX.

```
.DATA
n DWORD 5

.CODE
main PROC
___1___
___2___
___3___
___4___
___5___
INVOKE ExitProcess, 0
main ENDP
END
```

Which line of code should be in blank 4?

- ADD EAX, ECX
- S:
- ADD, EAX, 1

- ADD EAX, n
- ADD EAX, ECX + n

Question 15

3 / 3 pts

Use the following code for the next five questions.
This program should place the sum of the numbers from 1 to n in the EAX register. E.g. if n is 5 then 15
(1+2+3+4+5) should be in EAX.

```
.DATA
n DWORD 5


.CODE
main PROC
___1___
___2___
___3___
___4___
___5___
INVOKE ExitProcess, 0
main ENDP
END main
```

Which line of code should be in blank 5?

- ADD EAX, ECX
- MOV ECX, 0
- ADD EAX, 1 + n
- ADD EAX, n + 1

- LOOP S

Question 16

3 / 3 pts

What is the value of AL after each of the lines of code executes?

```
.DATA
        val DWORD 1,2
.CODE
main PROC
        MOV AL, TYPE val
        MOV AL, SIZEOF val
        NEG AL
        INC AL
        DEC AL
main ENDP
END main
```

What is the value of AL after the "MOV AL, TYPE val" line executes?

- 01
- 02
- 04
- 08
- None of the above

Question 17

3 / 3 pts

What is the value of AL after each of the lines of code executes?

```
.DATA
        val DWORD 1,2
.CODE
main PROC
        MOV AL, TYPE val
        MOV AL, SIZEOF val
        NEG AL
        INC AL
        DEC AL
main ENDP
END main
```

What is the value of AL after the "MOV AL, SIZEOF val" line executes?

- 01
- 02
- 04
- 08
- None of the above

Question 18

3 / 3 pts

What is the value of AL after each of the lines of code executes?

```
.DATA
        val DWORD 1,2
.CODE
main PROC
        MOV AL, TYPE val
        MOV AL, SIZEOF val
        NEG AL
        INC AL
        DEC AL
main ENDP
END main
```

What is the value of AL after the "NEG AL" line executes?

- (●) F8
- ( ) FF
- ( ) 04
- ( ) 08
- ( ) None of the above

Question 19

3 / 3 pts

What is the value of AL after each of the lines of code executes?

```
.DATA
        val DWORD 1,2
.CODE
main PROC
        MOV AL, TYPE val
        MOV AL, SIZEOF val
        NEG AL
        INC AL
        DEC AL
main ENDP
END main
```

What is the value of AL after the "INC AL" line executes?

- (●) F9
- ( ) FB
- ( ) 05
- ( ) 09
- ( ) None of the above

Question 20

3 / 3 pts

What is the value of AL after each of the lines of code executes?

```
.DATA
        val DWORD 1,2
.CODE
main PROC
        MOV AL, TYPE val
        MOV AL, SIZEOF val
        NEG AL
        INC AL
        DEC AL
main ENDP
END main
```

What is the value of AL after the "DEC AL" line executes?

- (●) F8
- ( ) FA
- ( ) 04
- ( ) 08
- ( ) None of the above

Question 21

3 / 3 pts

After the program completes the array "newValue" should be the reverse of "oldValue". E.g. if the values in "oldValue" are 1,2,3,4,5 then after the program completes the values in "newValue" should be 5,4,3,2,1. This program should be flexible enough to handle arrays with 2 to 100 elements.

```
.DATA
oldValue DWORD 1,2,3,4,5
newValue DWORD LENGTHOF oldValue DUP(?)
.CODE
main PROC
___1___
O:
___2___
LOOP O
___3___
N:
___4___
LOOP N

INVOKE ExitProcess, 0
main ENDP
END main
```

Which line of code should be in blank 1?

- MOV ECX, OFFSET oldValue
- MOV ECX, SIZEOF oldValue
- MOV ECX, 4
- MOV ECX, 5
- MOV ECX, LENGTHOF oldValue

Question 22

3 / 3 pts

After the program completes the array "newValue" should be the reverse of "oldValue". E.g. if the values in "oldValue" are 1,2,3,4,5 then after the program completes the values in "newValue" should be 5,4,3,2,1. This program should be flexible enough to handle arrays with 2 to 100 elements.

```
.DATA
oldValue DWORD 1,2,3,4,5
newValue DWORD LENGTHOF oldValue DUP(?)
.CODE
main PROC
___1___
O:
___2___
LOOP O
___3___
N:
___4___
LOOP N

INVOKE ExitProcess, 0
main ENDP
END main
```

Which line of code should be in blank 2?

- MOV newValue[(ECX * 2) -2]
- MOV newValue[(ECX * 2) -2], oldValue[(ECX * 2) - 2]
- MOV newValue[ECX], oldValue[ECX]
- PUSH oldValue[(ECX - 1)* 4]

- ADD oldValue[ECX], newValue[ECX]

Question 23

3 / 3 pts

After the program completes the array "newValue" should be the reverse of "oldValue". E.g. if the values in "oldValue" are 1,2,3,4,5 then after the program completes the values in "newValue" should be 5,4,3,2,1. This program should be flexible enough to handle arrays with 2 to 100 elements.

```
.DATA
oldValue DWORD 1,2,3,4,5
newValue DWORD LENGTHOF oldValue DUP(?)
.CODE
main PROC
___1___
O:
___2___
LOOP O
___3___
N:
___4___
LOOP N

INVOKE ExitProcess, 0
main ENDP
END main
```

Which line of code should be in blank 3?

- MOV ECX, OFFSET oldValue
- MOV ECX, SIZEOF oldValue
- MOV ECX, 4

- MOV ECX, 5
- MOV ECX, LENGTHOF oldValue

Question 24

3 / 3 pts

After the program completes the array "newValue" should be the reverse of "oldValue". E.g. if the values in "oldValue" are 1,2,3,4,5 then after the program completes the values in "newValue" should be 5,4,3,2,1. This program should be flexible enough to handle arrays with 2 to 100 elements.

```
.DATA
oldValue DWORD 1,2,3,4,5
newValue DWORD LENGTHOF oldValue DUP(?)
.CODE
main PROC
___1___
O:
___2___
LOOP O
___3___
N:
___4___
LOOP N

INVOKE ExitProcess, 0
main ENDP
END main
```

Which line of code should be in blank 4?

- POP newValue[ECX]
- MOV oldValue[(ECX * 2) - 2], newValue[(ECX * 2) -2]

- MOV oldValue[ECX], newValue[ECX]
- POP newValue[(ECX * 4) - 4]
- ADD newValue[ECX], oldValue[ECX]

Question 25

3 / 3 pts

What is the value of EAX after each of the lines of code executes?

```
.DATA
        val SWORD 0AAFFh
.CODE
main PROC
        MOVSX EAX, val
        MOVZX EAX, val
        MOV AL, BYTE PTR [val]
        MOV AL, BYTE PTR [val + 1]
    INVOKE ExitProcess, 0
main ENDP
END main
```

What is the value of EAX after the "MOVSX EAX, val" line executes?

- 0000FFAA
- 0000AAFF
- FFAA0000

- FFFFFFAA
- None of the above

Question 26

3 / 3 pts

What is the value of EAX after each of the lines of code executes?

```
.DATA
        val SWORD 0AAFFh
.CODE
main PROC
        MOVSX EAX, val
        MOVZX EAX, val
        MOV AL, BYTE PTR [val]
        MOV AL, BYTE PTR [val + 1]
    INVOKE ExitProcess, 0
main ENDP
END main
```

What is the value of EAX after the "MOVZX EAX, val" line executes?

- 0000FFAA
- 0000AAFF
- FFAA0000
- FFFFFFAA

None of the above

Question 27

3 / 3 pts

What is the value of EAX after each of the lines of code executes?

```
.DATA
        val SWORD 0AAFFh
.CODE
main PROC
        MOVSX EAX, val
        MOVZX EAX, val
        MOV AL, BYTE PTR [val]
        MOV AL, BYTE PTR [val + 1]
    INVOKE ExitProcess, 0
main ENDP
END main
```

What is the value of EAX after the "MOV AL, BYTE PTR [val]" line executes?

- 0000FFAA
- 0000AAFF
- FFAA0000
- FFFFFFAA

- None of the above

Question 28

3 / 3 pts

What is the value of EAX after each of the lines of code executes?

```
.DATA
        val SWORD 0AAFFh
.CODE
main PROC
        MOVSX EAX, val
        MOVZX EAX, val
        MOV AL, BYTE PTR [val]
        MOV AL, BYTE PTR [val + 1]
    INVOKE ExitProcess, 0
main ENDP
END main
```

What is the value of EAX after the "MOV AL, BYTE PTR [val + 1]" line executes?

- 0000FFAA
- 0000AAFF
- FFAA0000
- FFFFFFAA

None of the above

Question 29

3 / 3 pts

.DATA
varB BYTE 65h,31h,02h,05h
varW WORD 6543h,1202h
varD DWORD 12345678h

.CODE
MOV AX, WORD PTR [varB+2]
MOV BL, BYTE PTR varD
MOV BL, BYTE PTR [varW+2]
MOV AX, WORD PTR [varD+2]
MOV EAX, DWORD PTR varW

What is the value of AX after the " MOV AX, WORD PTR [varB+2]" line executes?

- 0502h
- 0205h
- 6531h
- 3165h
- None of the above

Question 30

3 / 3 pts

```
.DATA
varB BYTE 65h,31h,02h,05h
varW WORD 6543h,1202h
varD DWORD 12345678h

.CODE
MOV AX, WORD PTR [varB+2]
MOV BL, BYTE PTR varD
MOV BL, BYTE PTR [varW+2]
MOV AX, WORD PTR [varD+2]
MOV EAX, DWORD PTR varW
```

What is the value of BL after the " MOV BL, BYTE PTR varD " line executes?

- (●) 78h
- ( ) 56h
- ( ) 34h
- ( ) 12h
- ( ) None of the above

Question 31

3 / 3 pts

```
.DATA
varB BYTE 65h,31h,02h,05h
varW WORD 6543h,1202h
varD DWORD 12345678h

.CODE
MOV AX, WORD PTR [varB+2]
MOV BL, BYTE PTR varD
```

MOV BL, BYTE PTR [varW+2]
MOV AX, WORD PTR [varD+2]
MOV EAX, DWORD PTR varW

What is the value of BL after the " MOV BL, BYTE PTR [varW+2]" line executes?

- (●) 02h
- ( ) 12h
- ( ) 1202h
- ( ) 43h
- ( ) 65h

Question 32

3 / 3 pts

.DATA
varB BYTE 65h,31h,02h,05h
varW WORD 6543h,1202h
varD DWORD 12345678h

.CODE
MOV AX, WORD PTR [varB+2]
MOV BL, BYTE PTR varD
MOV BL, BYTE PTR [varW+2]
MOV AX, WORD PTR [varD+2]
MOV EAX, DWORD PTR varW

What is the value of AX after the "MOV AX, WORD PTR [varD+2]" line executes?

- (●) 1234h

- 5678h
- 4321h
- 8756h
- None of the above

Question 33

3 / 3 pts

```
 .DATA
varB BYTE 65h,31h,02h,05h
varW WORD 6543h,1202h
varD DWORD 12345678h

.CODE
MOV AX, WORD PTR [varB+2]
MOV BL, BYTE PTR varD
MOV BL, BYTE PTR [varW+2]
MOV AX, WORD PTR [varD+2]
MOV EAX, DWORD PTR varW
```

What is the value of EAX after the "MOV EAX, DWORD PTR varW" line executes?

- (selected) 12026543h
- 00001202
- 65431202h
- 00006543
- None of the above

Question 34

3 / 3 pts

What is the maximum value (in base 10) of a signed 5-bit number?

- 31
- 32
- 15
- 18
- None of the above

Quiz Score: **102** out of 102