① This quiz has been regraded; your new score reflects 2 questions that were affected.

Exam 1 Lecture

Due Sep 28 at 4:45pm Points 100 Questions 37 Available Sep 28 at 3:30pm - Sep 28 at 4:45pm about 1 hour Time Limit None

Instructions



This quiz is being monitored. You must:

- · Close all other applications (except Canvas).
- Have only 1 browser with 1 tab open (the one with canvas).
- Maximize your browser.
- Do not use a secondary device for looking up answers.
- No Calculators!!!
- No help via any of the social media apps!
- · You may use an empty notepad, pencil, eraser.
- No NOTES!

Violation of any one of these rules will result in a 0 for your grade and a report being sent to the Dean for academic dishonesty.

This quiz was locked Sep 28 at 4:45pm.

Attempt History

	Attempt	Time	Score	Regraded
▶ :ST	Attempt 1	71 minutes	84.7 out of 100	85.7 out of 100

Score for this quiz: **85.7** out of 100 Submitted Sep 28 at 4:42pm This attempt took 71 minutes.

Question 1 1/1 pts

Indicate which data type is needed for the two's complement representation of -64,000.

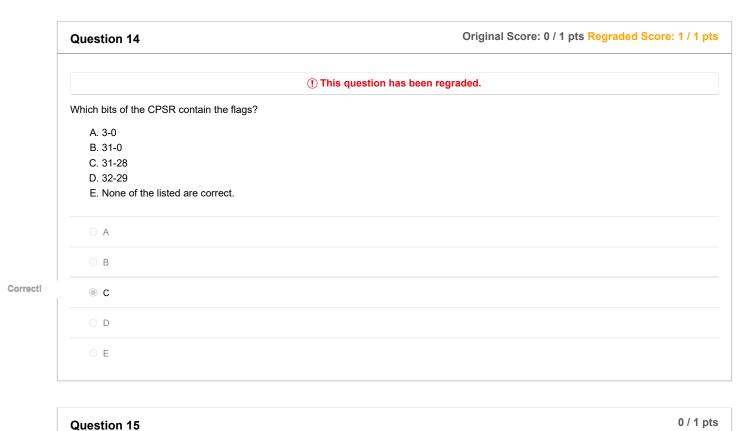
	O byte	
	O halfword	
Correct!	word	
	onone of the listed answers.	
	Question 2	1 / 1 pts
	Indicate which data type is needed for the two's complement representation of 254.	
	O byte	
Correct!	halfword	
	○ word	
	none of the listed answers	
	Question 3	1 / 1 pts
	If the hexadecimal value 0x8000 is a two's complement, halfword value, what would it be in base ten?	
	○ -8000	
	© 8000	
	800032768	
Correct!		
Correct!	○ 32768	
Correcti	○ 32768 ◎ -32768	
Correct!	○ 32768 ◎ -32768	1 / 1 pts

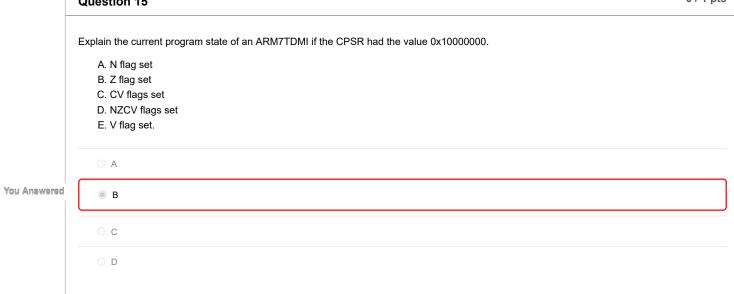
	What character does the bits 0100 0001 represent?	
	○ '65 '	
Correct!		
	○ 'a'	
	onone of the listed answers	
	Question 5	1 / 1 pts
	What character does the bits 0100 0100 represent?	
	○ 'A'	
Correct!	(¹Q¹)	
	○ 'E'	
	onone of the listed answers	
	Question 6	1 / 1 pts
	Word = bits	
	○ 4	
	© 8	
	O 16	
Correct!	32	
	O 64	

Question 7	1 / 1 pt
Halfword = bits	
O 4	
O 8	
◎ 16	
○ 32	
O 64	
Question 8	1 / 1 pt
Byte = bits	•
O 4	
8	
O 16	
O 32	
O 64	
Question 9	1 / 1 pt
6. For the ARM7TDMI, instructions are byte(s).	
O 1	
O 2	
© 4	

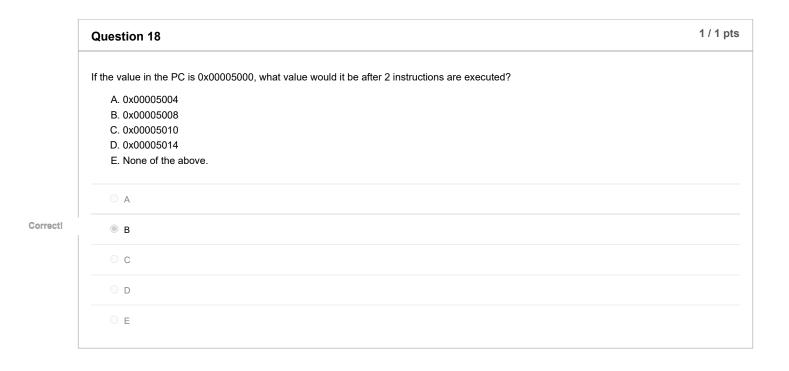
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	O 8	
	○ 16	
	Question 10	1 / 1 pt
	What is the standard use of register r13?	
	A. Stack Pointer	
	B. Link Register	
	C. Program Counter	
	D. CPSR	
	E. None of the listed are correct.	
il .		
	○ B	
	○ C	
	○ D	
	○ E	
		4/4
	Question 11	1 / 1 pt
	What is the standard use of register r14?	
	A. Stack Pointer	
	B. Link Register	
	C. Program Counter	
	D. CPSR	
	E. None of the listed are correct.	
	○ A	
!		
	○ C	
	○ D	

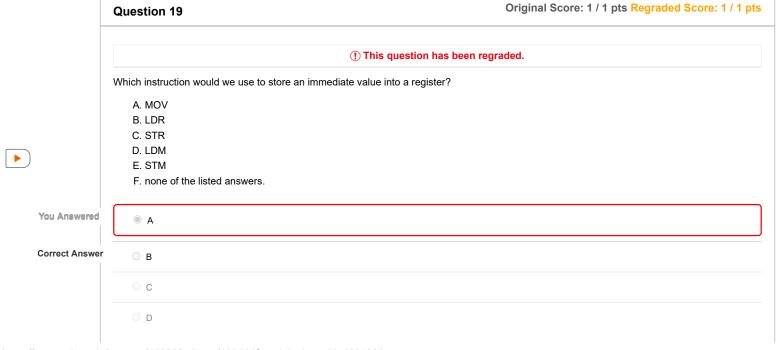
Exam 1 Lecture: SC_2020FA_CS3B_16840 : COMPUTER ORGANIZATION AND ASSEMBLY LANGU			
○ E			
Question 12	1 / 1 pt		
What is the standard use of register r15?			
A. Stack Pointer			
D. CPSR			
E. None of the listed are correct.			
○ A			
○ B			
○ D			
○ E			
Question 13	1 / 1 p		
What is the standard use of register r7?			
○ A			
○ B			
○ C			
○ D			
● E			
	Question 12 What is the standard use of register r15? A. Stack Pointer B. Link Register C. Program Counter D. CPSR E. None of the listed are correct. A B C C D Link Register C. Program Counter D. CPSR E. None of the listed are correct.		





С	orrect Answer	○ E	
	[
		Question 16	1 / 1 pts
		If R0 contains 0x00005093 and R1 contains 0x00005555 what is the resulting value in R0 following this instruction: ADD R0,R1	
		A. 0x00050930	
		B. 0x00005011	
		C. 0x000055D7	
		D. 0x000005C6 E. 0x0000A5E8	
		E. 0x0000A3E8	
		○ A	
		ОВ	
		○ C	
		○ D	
	Correct!		
	١		
		Question 17	1 / 1 pts
		6. What command code goes into R7 prior to issuing the SVC 0 instruction if we want to tell Linux to terminate the program?	
		A. 0	
		B. 1	
		C. 2	
		D. 3 E. 4	
		C. 4	
		○ A	
	Correct!		
		○ C	
		○ D	
		○ E	

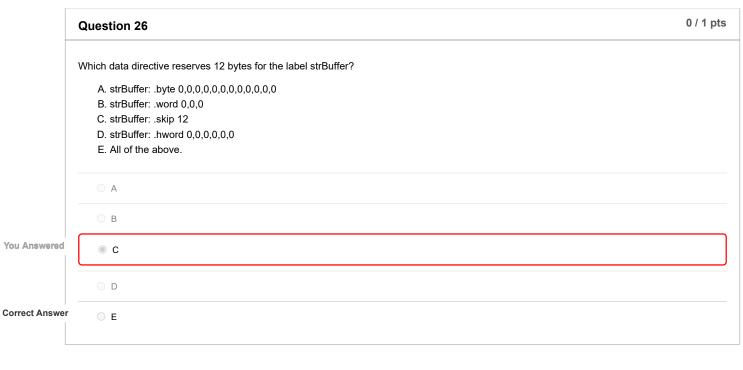




	○ E	
	○ F	
	Question 20	0 / 1 pts
	MOV R0, R1 copies the contents of	
	A. R0 to R1 and updates the Status Register (CPSR)	
	B. R1 to R0 and updates the Status Register (CPSR)	
	C. R0 to R1	
	D. R1 to R0	
	E. none of the listed answers.	
	○ A	
You Answered		
Correct Answer	○ D	
	○ E	
	Question 21	1 / 1 pts
	Which data directive would be the "best" if we needed a variable with a maximum unsigned value of 0xFF?	
	Aint	
)	Bhword	
	Cword	
	Dbyte	
	E. none of the listed answers.	
	○ A	
	ОВ	
	○ C	

Correct!		
	○ E	
	Question 22	1 / 1 pts
	Which data directive would be the 'best' if we needed a variable with a maximum unsigned value of 0xFFFF?	
	Aint	
	Bhword	
	Cword	
	Dbyte	
	E. none of the listed answers	
	○ A	
Correct!		
	○ C	
	○ D	
	○ E	
	Question 23	1 / 1 pts
	Which data directive would be the 'best' if we needed a variable with a maximum unsigned value of 0xFFFFFFF?	
	Aint	
	Bhword	
	Cword	
	Dbyte	
	E. none of the listed answers.	
	○ A	
	ОВ	
Correct!		
	○ D	

	○ E	
	Question 24	1 / 1 pts
	Which data directive places a null character at the end of a string?	
	Aasciz Basci	
	C. asciiz	
	Dbyte	
	E. none of the listed answers.	
Correct!		
	ОВ	
	○ C	
	○ D	
	○ E	
	Question 25	1 / 1 pts
	LDR stands for:	
	A. LoaD Register from memory	
	B. LoaD Register to memory	
	C. LoaD Register from Register D. none of the listed answers.	
Correct!		
	О В	
	○ C	
	○ D	



		Question 27	1 / 1 pts
		What does the instruction LDR R1, [R5] do? A. Load the contents of the memory address pointed to by R5 into R1 B. Load the contents of the memory address pointed to by R1 into R5 C. Load the contents of R5 into R1 D. Load the contents of R1 into R5 E. none of the listed answers.	
>	Correct!		
		○ B	
		○ C	
		○ D	
		○ E	

	Question 28				
	What does the instruction LDR R1, =string do?				
	A. Load the address of the label string into R1 B. Load the value of the label string into R1 C. Load the value R1 into the address pointed to by the label string D. none of the listed answers.				
orrect!	● A				
	ОВ				
	○ c				
	Ор				
	Question 29	1 / 1 pts			
	STR stands for:				
	A. STore memoRy to memory				
	B. STore memory to Register				
	C. STore Register to memory				
	D. none of the listed answers.				
	○ A				
	○ B				
orrect!					
	○ D				
	Question 30	0 / 1 pts			
	What does the instruction STR R0, [R1] do?				
	A Store the contents of the memory address pointed to by P0 into P1				

B. Store the contents of the memory address pointed to by R1 into R0

You Answered Correct Answer	C. Store the contents of R0 into R1 D. Store the contents of R0 into the address pointed to by R1 E. none of the listed answers. A B C C	
	○ E	
	Question 31	0 / 1 pts
You Answered	Executing either LDR or STR instructions would effectively transfer a of data from one point in memory to another. A. byte B. half byte (nibble) C. word D. string E. none of the listed answers.	
	○ B	
Correct Answer	○ C	
	○ D	
	○ E	
	Question 32	0 / 1 pts
	Which does the instruction LDR R1, R2 do? A. Load the address of R2 into R1 B. Load the value of R2 into R1	

	C. Load the R1 into the address pointed to by R2 D. none of the listed answers.
You Answered	
	ОВ
	○ C
Correct Answer	O D

Question 33 6 / 6 pts

Part 1 (5 pts): Suppose that the starting address of the first byte in our data segment is 00020088 in hex. Suppose further that the data identifiers are as described below. Finish writing out the memory addresses for each label below. The first label 'bA' has been completed for you. Your answer must include all 8 hex digits without the '0x'! No exceptions.

			.data	
0x00020088		bA:	.byte	155
0×	00020089	bFlag:	.byte	1
0ж	0002008A	chInit:	.byte	`j′
0x	0002008B	u16Hi:	.hword	88
0ж	0002008D	wAlt:	.word	77, -1024, -6
0x	00020099	szMsg2	.asciz	"ABC"
0x	0002009D	chCr	.byte	10



Answer 1:

Answer 2:

Correct!

00020089

Correct!

0002008a

Answer 3:

Correct!

0002008b

	Answer 4:	
Correct!	0002008d	
	Answer 5:	
Correct!	00020099	
	Answer 6:	
Correct!	0002009d	

Question 34

Based on the data identifiers listed in Part 1, how many bytes is our data segment (Only enter the number!)

Correct Answers 22

Using the data segment is Part 1 Question 1 and complete the memory dump below. **MEMORY DUMP** 0x 0x 0x 0x 0x 0x 0x 0x 0×00020088 9B 01 6A 58 00 4D 00 00 0x0x 0x 0x 0x 0x 0x 0x 0x 00020090 00 00 FC FF FF FA FF FF 0x0x 0x 0x 0x 0x 0x 0x 0x 00020098 FF 41 43 00 0A 00 42 00

26 / 26 pts



Answer 1:

Correct!

9b

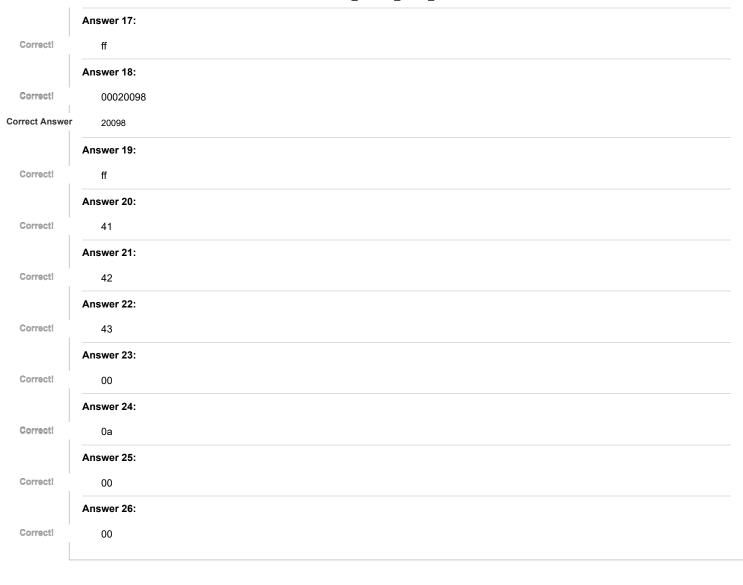
Question 35

Answer 2:

Correct!

01

	Answer 3:
Correct!	6a
	Answer 4:
Correct!	58
	Answer 5:
Correct!	00
	Answer 6:
Correct!	4d
	Answer 7:
Correct!	00
	Answer 8:
Correct!	00
	Answer 9:
Correct!	00020090
Correct Answer	20090
	Answer 10:
Correct!	00
	Answer 11:
Correct!	00
	Answer 12:
Correct!	fc
	Answer 13:
Correct!	ff
	Answer 14:
Correct!	ff
	Answer 15:
Correctl	fa
	Answer 16:
Correcti	#



Question 36 24 / 24 pts

Still using the data segment is Part 1,

Suppose now that the contents of the memory have changed to reflect the results of the execution of code by an unknown program to be the following...

USE the TAB Key to navigate from byte to byte if necessary.

Correct!

Correct!

Correct!

Correct!

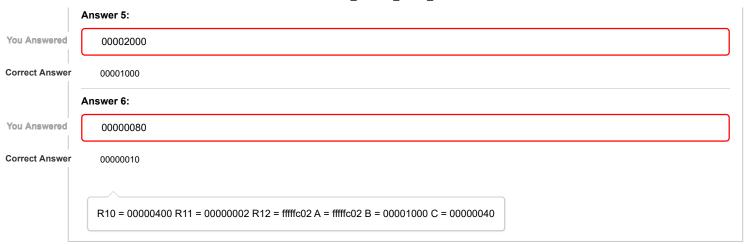
MEMORY DUMP 0x00020088 0x42 0x61 0x74 0x6d 0x61 0x6e 0x00 0x61 0x0x6c 0x18 0x00 0x00 0xff 0x0a 0x00 0x01 00020090 0x0xff 0x55 0x53 0x41 0x00 0xfd 0xff 0xff 00020098 Step 1: Complete the row address values in the table above. DO NOT INCLUDE the '0x's, show all 4 bytes of the address, with no spaces! Use the 00020170 as an example format. Step 2: Answer the 4 questions below: Q1. If we were to print szMsg using the putstring function what would display to the terminal? Q2. Assuming R1 contained the address of wAlt[1], what would be stored in R0 (Big-Endian) after the following instruction is executed: ldrh r0, [r1] Provide your answer as a hex value stored in R0, do not provide the '0x', just the values, with no spaces. You must provide all 4 bytes in your answer, even if the byte is 0 (i.e. 0000000000) would be the equivalent to 0x.0000 $R0 = 0x \mid 00000A18$ Q3. What is the 1-byte hex value of szMsg2[2] (do not include the '0x' in your answer)? 0x | 41 Answer 1: 00020090 Answer 2: 00020098 Answer 3: USA Answer 4: You Answered 00000A18 **Correct Answer** 00000100 Answer 5: 41



```
1.7 / 10 pts
Question 37
What is stored in the following registers after line 49 executes in the code below (Ensure you show all 8 nibbles in your answer in hex):
       0x00020100 strBuffer: .skip 512
       0x_____ cCR:
                                .byte 10
                 sValA:
                                .hword 5
                 _ strMessage: .ascii "Result: "
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
                 strAddress: .skip 10
       0x_____strPromptl: .asciz "I love Assembly!"
                iValA:
                                .word 2
                __iValB:
                                .word 2048
                 iResult:
                                .word 0
                 iArray:
                                .word 0,0,0
                __ strResult: .skip 12
       @This is also a comment
           .text
            .global _start
                                    @ provide a program starting address to Linker
            .balign 4
           ldr R0, =strResult
           ldr Rl, =iArray
33
34
35
           ldr R2, =iResult
           ldr R3, =iValB
           ldr R4, =iValA
           ldr R5, =strPrompt1
           ldr R6, =strAddress
38
39
40
41
42
43
           ldr R7, =strMessage
           ldr R8, =sValA
           ldr R9, =cCR
           ldr R10, =strBuffer
           mov R10, #1024
           str R10, [R3]
           ldr R11, [R4]
47
48
49
50
51
52
53
54
55
57
59
           add R12, R10, R11
           sub R12,R11,R10
           mov r0, #0
                               @ Exit Status code set to 0 to indicate "normal completion"
           mov r7, #1
                                @ service command code (1) will terminate this program
                                @ Issue Linux command to terminate program
61
R10 = 00000800
```



	R11 = 00000002		
	R12 = FFFFF802		
	If the next instruction after line 49 was:		
	orr r10,r11,r12		
	The value of r10 would = FFFFF802		
	If the next instruction after line 49 was:		
	lsl r10,#2		
	The value of r10 would = 00002000		
	If the next instruction after line 49 was:		
	asr r10, #4		
	The value of r10 would = 00000080		
	Answer 1:		
You Answered	00000800		
Correct Answer	00000400		
	Answer 2:		
You Answered	00000002		
Correct Answer	00000000		
	Answer 3:		
You Answered	FFFF802		
Correct Answer	fffffc00		
	Answer 4:		
You Answered	FFFFF802		
Correct Answer	ffffc00		



Quiz Score: **85.7** out of 100

