Name	answers
Name _	UNDWELD

## CE-1921 - Dr. Durant - Quiz 4 Spring 2018, Week 4

- 1. (5 points) Assemble the following instruction to ARMv4 machine code: subne r3,r4,#0x5a
  - a. Label and box in each field above the boxes below. "cond" has been done for you.
  - b. Box in and fill each field in the next row with the value for that field.
  - c. Convert values to binary in the following row.
  - d. Convert values to hexadecimal in the final row.

	31 30 29 28	27 26	25	24 23	22	21	20	19	18	17	16	15	14	13 12	. 11 1	9 8	7 6	5 4	3 2 1 0
а	cond	OP	I	Op	ocado (		ک	Rn			Rd			rotate		immodian			
b	NE	SEB		50	В		0	4		3			0		0×5A				
С	0001	00	ı	00	/	0	0	0	/	0	0	0	σ	1 1	00	00	01	01	1010
d	[	1 2 4			4				3			0		5		A			

2. (5 points) Assemble the following instruction to ARMv4 machine code: str r5,[r7],#-0x20

	31 30 29 28	27   26   25   24	23 22 21 20	19   18   17   16	15   14   13   12	11 10 9 8 7 6 5 4 3 2 1 0				
a	cond	OP I	DUBWL.	Rn	Rol	Imm				
b	AL	10/5T 0 C	SUB O O STOR	7	5	0×020				
С	1110	0100	0000	0111	0.01	000000100000				
d	E	4	0	7	5	0 2 0				

Post-index: PW=00 "Unsigned"

Subtract offset: U=0

Store word: LB=00

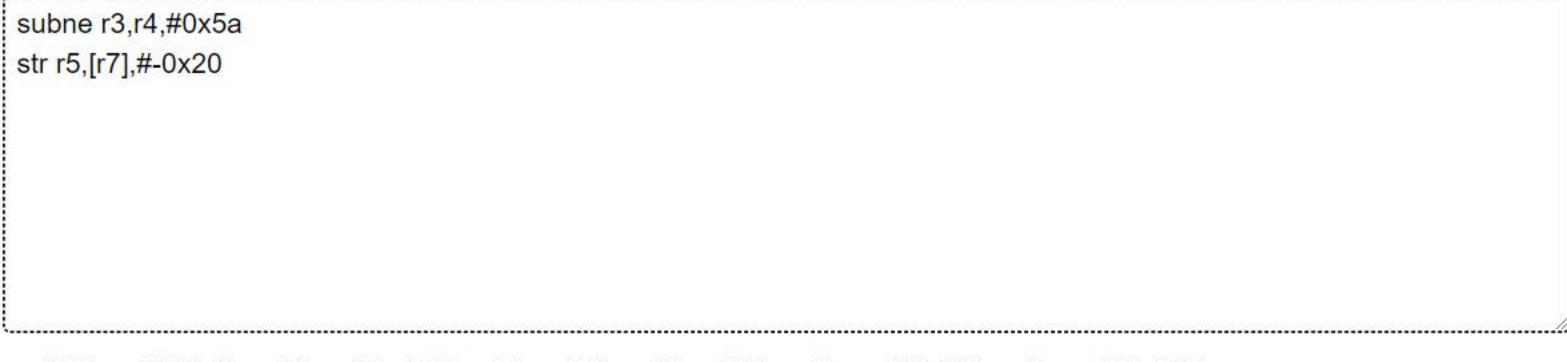
The load byte

Rd gets dated For load/store

Makes sense since Operand 1, Operand 2 go to ALL

Tregularity

Rn Imm<sub>12</sub>



• ARM 

ARM (thumb) 

AArch64 

Mips (32) 

Mips (64) 

PowerPC (32) 

PowerPC (64)

Sparc ○ x86 (16) ○ x86 (32) ○ x86 (64)

"\x12\x44\x30\x5a\xe4\x07\x50\x20"

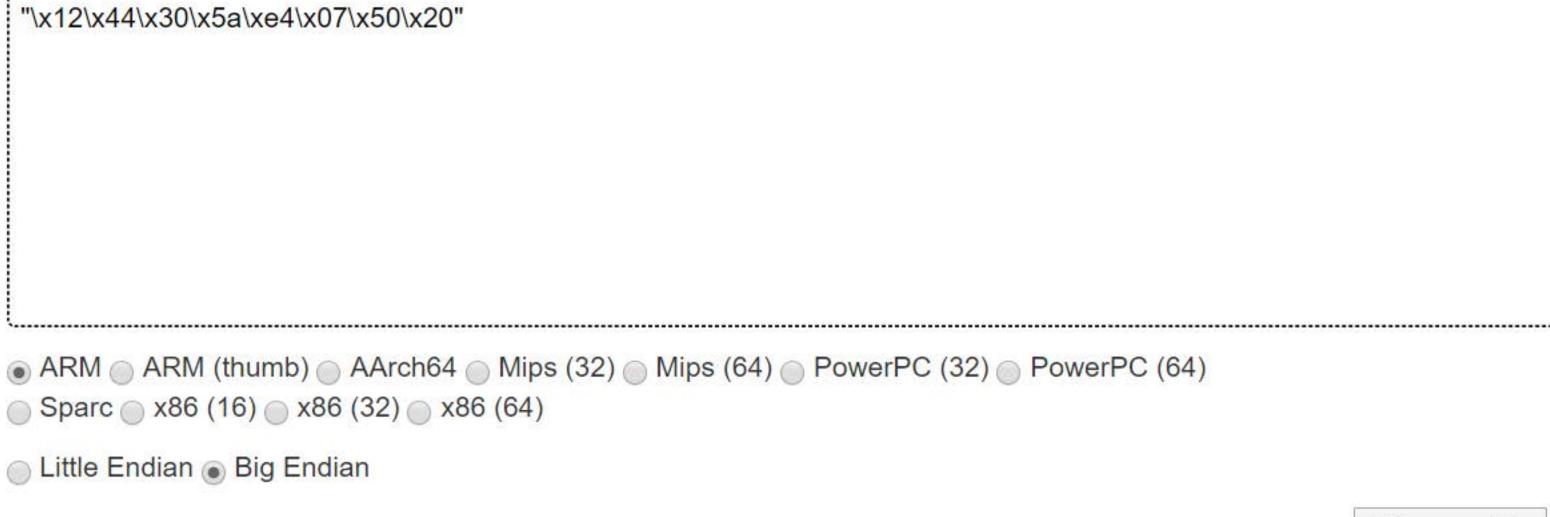
Assemble

## Assembly

```
Little endian:

"\x5a\x30\x44\x12\x20\x50\x07\xe4"

Big endian:
```



Disassemble

## Disassembly

```
0x00000000: subne r3, r4, #0x5a
0x00000004: str r5, [r7], #-0x20
```