

# Test 1 CPSC 3300

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① a) Unsigned: 192

b) 2's complement: -64

②  $(5)_{10} = 0101$

$-(7)_{10} = 0111 \leftarrow \text{two's complement of } 7 \text{ or } 1001$

$$\begin{array}{r} 0101 \\ + 0111 \\ \hline 1100 \end{array}$$

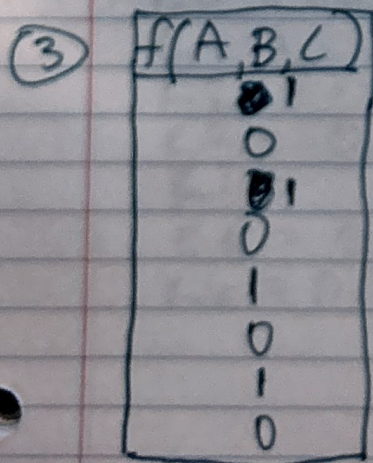
Result: 1100

Z = 0

N = 1

C = 1

V = 0





④

Label	Memory Address	Byte stored
Joe	500	44
	501	33
	502	22
	503	11
Ann	504	4E
	505	00
	506	00
	507	00
Pat	508	98
	509	AB
	50A	DC
	50B	FE
	50C	
	50D	
	50E	
	50F	
	510	
	511	
	512	

⑤

$R0 = 0x50$   
 $R1 = 0x20000000$   
 $R2 = 0x78$        $R0 = 0x20000004$   
 $R3 = 0x85$   
 $R4 =$        $R3 = 0x2000000D$   
 $R5 = 0x05$   
 $R6 = 0xE7$        $R3 = 0x20000010$



(6)

.text  
.global main

main:

LDR r0, =X  
LDR r1, =Y  
LDR r2, =Z

LDR r3, [r0]  
LDR r4, [r1]  
LDR r5, [r2]

ADD r3, r4  
SUBS r3, #7

SMUL r4, r2  
ADD r4, #5

SDIV r3, r4  
STR r3, [r0]

(7)

.global main

main:

LDR r1, #0  
LDR r0, =BB  
loop LDR r0, [r1], #4  
ADD r1, #1  
CMP r1, #200  
BIT loop  
LDR r2, #0  
LDR r3, =CC  
loop LDR r3, [r2], #4  
ADD r2, #1  
CMP r2, #200  
BIT loop



⑦ Cont.

```
loop  LDR    r4, #0  
      LDR    r5, [r4], #4  
      ADD    r4, #1  
      CBP    r4, #200  
      BIT    loop
```