Test 1 CPSC 3300

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(1) a) Unsigned: 192

b) 2's compliment: -64

(2) $(5)_{10} = 0101$

$-(7)_{10} = 0111$ ← two's compliment of 7 or 1001

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

Result: 1100 Z = 0

N = 1

C = 1

V = 0

(3)

f(A,B,C)
1
0
1
0
1
0
1
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 = [redacted] 0x50

R1 = 0x20000000

R2 = 0x[redacted]78

R3 = 0x85

R4 =

R5 = 0x05

R6 = 0xE7

R0 = 0x20000004

R3 = 0x2000000D

R3 = 0x20000010

(6)

```
.text
.global main
Main:
    LDR   r0, =X
    LDR   r1, =Y
    LDR   r2, =2

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

    ADD   r3, r4
    SUBS  r3, #7

    SMULL 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, =C
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
      CMP  r4, #200
      BLT  loop
```