

ECE331 Quiz 5 (9/15/2008)

Name: Solution CM#: _____

Address	Contents
\$0020	\$DE
\$0021	\$02
\$0022	\$34
\$0023	\$02
\$0024	\$02
\$0025	\$35
\$0041	\$12
\$0042	\$34
\$0043	\$20
\$0044	\$00
\$0045	\$12
\$0205	\$10
\$0206	\$24
\$0234	\$00
\$0235	\$23
\$0236	\$00
\$0237	\$21
\$0238	\$05
\$0239	\$39
\$02DE	\$35
\$02E0	\$01
\$02E1	\$A5
\$02E2	\$36
\$02E3	\$FE
\$1004	\$89
\$1005	\$FE
\$1024	\$45
\$1025	\$67
\$3437	\$20
\$3438	\$00
\$3439	\$20
\$343A	\$02
\$343B	\$78
\$3734	\$37
\$3735	\$02

A. The following two instructions are executed:
 LDX \$21 → X = #234
 LDD 2,X → D = #0021, X = #236
 Now register "A" contains \$ 00
 register "B" contains \$ 21
 register "X" contains \$ 0236

B. The following two instructions are executed
 LDY #0236 → Y = #236
 LDX 1,Y+ → X = #0021, Y = #237
 Now register "Y" contains \$ 0237 and register "X" contains \$ 0021

C. The following instructions are
 LDX \$234 → X = #0023
 LDX -3,X → X = #DE02
 LDY \$21 → Y = #0234
 LDAA 2,Y → A = #00
 LDAB [2,Y] → B = #02

Now X contains ~~0023~~ #DE02 D contains \$ 00 02

D. The following four instructions are executed:

LDS #1000
 LDY #1234
 PSHY → SP = #OFFE
 PULB → B = #12
 PULA → A = #34
 PSHB → SP = #OFFF
 LEAY \$4321,Y

Now accumulator register "Y" contains \$ 5555 "S" contains \$ OFFF "D" contains \$ 3412

E. Assume the memory map above, and that the following program fragment is executed from location START:

START:	LDAA #4	
	CLRB	00 A = 3 after DBNE
	LDX #0234	23 A = 2
LOOP1:	ADDB 1,X+	00 A = 1
	DBNE A,LOOP1	+ 21 A = 0
	STAB \$800	
LOOP2:	BRA LOOP2	44

After the STAB instruction is executed, what is in A and X, and what is stored at location \$800?

A = \$ 00 X = \$ 0238 (\$800) = \$ 44 (Contents of address \$0800)