

;ECE331 Quiz 3 9/17/2009

;"Constant Offset Indexed" and "Offset Indexed Indirect" Addressing

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Name: Solution CM Box#: _____

XDEF Entry
ABSENTRY Entry
INCLUDE 'mc9s12c128.inc'

ORG \$400

DataBytes: DC.B \$04, \$04, \$04, \$07, \$9A, \$BC, \$DE, \$F1, \$EC, \$D7
DataWords: DC.W \$123, \$AB, \$CDEF, DataBytes+3
LocX: DS.B 3 ;Allocate 3 RAM bytes

ORG \$4000

Entry:

```
LDS    #$1000    ; initialize the stack pointer
LDX    #DataBytes ;X = $ 0400
LDAA   0,X       ;A = $ 04
LDAA   3,X       ;A = $ 07
LDD    5,X       ;D = $ BCDE
INX
LDX    #DataWords ;X = $ 040A
LDD    2,X       ;D = $ 00AB
LDAA   5,X       ;A = $ EF
LDAA  -3,X       ;A = $ F1
LDY   -3,X       ;Y = $ F1EC
LDY    #LocX     ;Y = $ 0412
STY    1,Y
LDAB   2,Y       ;B = $ 12
LDAA   1,Y       ;A = $ 04
                        ;Y = $ 0412
LDY    #DataBytes
LDAA   2,Y       ;A = $ 04
LDAA   [2,Y]     ;A = $ F1
INX
INX
LDAA  [-2,Y]     ;A = $ 9A
LDY   [-2,Y]     ;Y = $ 9ABC
LDX    #DataWords
LDAA   [6,X]     ;A = $ 07
LDD    6,X       ;D = $ 0403
TFR    X,D       ;D = $ 040A
LDD    X         ; Note: the "0," is implied, so this
                        ; is equivalent to "LDD 0,X"
                        ;D = $ 0123

ORG    $FFFE
DC.W   Entry     ; Reset Vector
```