Solution to HW 2, min/max problem

*Given the set of numbers \{20, 25, 40, 50, 12\}, write a program to find the minimum and maximum values.*

Solution: The following code performs this task. After the program is executed, the value stored at location 0x4045 will be $12 and the value stored at location 0x4046 will be $50.

```
org $4040
vals: fcb $20,$25,$40,$50,$12
min: fcb $0 ; running minimum
max: fcb $0 ; running maximum
org $4000
ldaa #$04 ; use register A as a counter (counting down to 0)
ldx #vals ; use X as a pointer to the current value to read
ldab 0,x ; use B to contain the current value
inx
stab min ; initialize min and max with first value in list
stab max
loop: tsta ; have all values been read?
    beq done
    ldab 0,x
    inx
    cmpb min ; compare current value to running min
        blo minl ; if less then it’s certainly not the max
        stab max ; else store it as running max
    minl:
        cmpb min ; compare current value to running min
        bhi next ; if more then it’s not the min
        stab min ; else store it as running min
next: deca
    bra loop
done: nop
end
```