Homework Lecture 5

4.1,

4.3,

4.5,

4.7,

Encode in Binary and Hex.
Verify your answer using the assembler of the ARCtools

Note

1. 4.7b should be **call label_d**
2. The call instruction uses a relative address. The explanation on page 120 first gives the impression that it is an absolute address ("call a subroutine that begins at location sub_r") and in the next sentience "sub_r is 25 words (100 btes) FARTHER n memory. The latter is correct. You can verify this using the ARCTools.

4.8,

Verify your answer using the assembler of the ARCtools

4.12,

Simulate with the ARCtools

4.13,

Notice that the syntax of the bold lines is changed.
If you know the behavior then verify it with the simulator of the ARCtools.

```
        .begin
        .org 0
Y:      ld      [k], %r1
        addcc   %r1, -4, %r1
        st      %r1, [k]
        bneg    X
        ld      [%r1 + a], %r2
        ld      [%r1 + b], %r3
        addcc   %r2, %r3, %r4
        st      %r4, [%r1 + c]
        ba      Y
X:      halt
k:      40
a:      …
b:      …
c:      …
        .end
```

4.18