UNIVERSITETET I OSLO
Institutt for Informatikk

PMA, PSE

Axelsen, Krogdahl, Møller-Pedersen, Steffen

INF 5110: Compiler construction

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Topic: Code generation (Exercises with hints for solution)

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Exercise 1 (Code generation) In this exercise we look at the code generation from the notat (i.e., from [**?**, page 538...]).

1. As repetition from the lecture. Look at the details how this algo generates the given sequence. Try to determine code sequence which is better (but does the same) than the one generated from the given 3AIC.

2. Discuss possibilities how one could improve the given algorithm from the book/notat (in this or other cases).

3. Translate the TAIC from Listing 1 to machine code.

Listing 1: 3AIC

```
1  t := a − c
2  u := a + c
3  w := a / t
4  d := w + u
```

Exercise 2 (Code generation (Exam 2007, 4a)) Do problem 4a from the exam 2010.

Exercise 3 (Code generation (Exam 2009, 4)) Do problem 4 from the exam 2009.

Exercise 4 (Code generation (Exam 2010, 4d)) Do problem 4d from the exam 2010.

Exercise 5 (Code generation (Exam 2011, 4)) Do problem 4c and 4d from the exam 2011.

References

[Aho et al., 1986] Aho, A. V., Sethi, R., and Ullman, J. D. (1986). *Compilers: Principles, Techniques, and Tools*. Addison-Wesley.