| CS 453 Compiler Construction — Spring 2013 | Homework #6 |
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| Register Allocation | Due May 9, 2013 |

This assignment is due Thursday May 9th at 11:59pm. The late policy is in effect, however the assignment may not be graded before the final if you submit it late. You should do this assignment by yourself. We recommend you do the reading assignments before attempting this HW.

Total points: 100

1. Draw the AST and the quadruples representation for the following statements:

```
y = a - b * c - (d - e)
b[i] =  y + c[ r[j] ]
```

2. Translate the following code into three address code and construct a control flow graph for it.

```
i = 0;
while (i<n) {
    sum = sum + b[i];
    i = i + 1;
}
```

3. Draw the register-interference graph for the program in Problem 9.1 in the online book.

4. Show an example code snippet where register allocation via data-flow analysis results in better register allocation than assigning registers to locals, parameters, and expressions.