This assignment is due at the beginning of class on Thursday. You should do this assignment by yourself. There will be a quiz Thursday morning, so come to class on time. 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:

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

2. Is the MeggyJr architecture CISC or RISC? Explain your reasoning and/or cite a reference.

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

   \[
   \text{for (i=0; i<n; i++)} \\
   \text{sum = sum + a[i]}
   \]

4. Draw the register-interference graph for the program in Figure 8.17 in the book.

5. 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.