

Plan for today

Translate questions?

Building trees and translating between trees

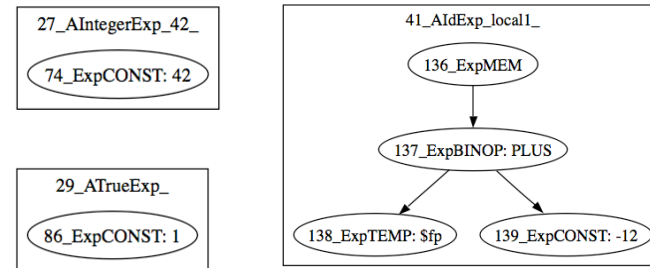
Start discussing instruction selection

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Building trees and translating between them

1

Translating the AST into Tree.Exp representation

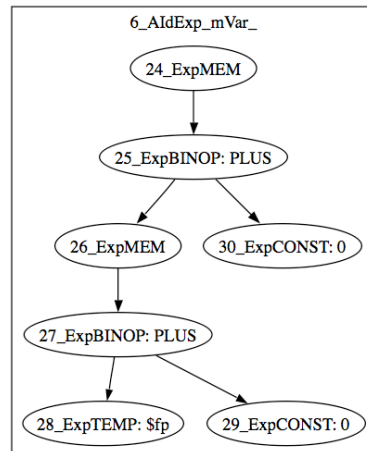


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2

Member Variables

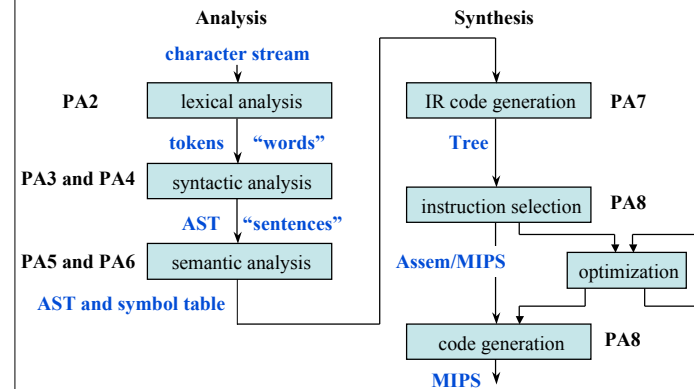


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3

Structure of the MiniJava Compiler



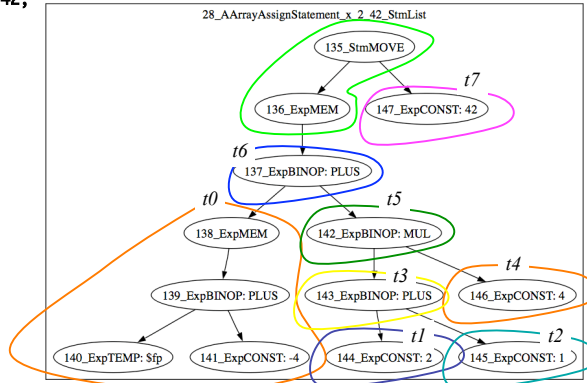
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4

MiniJava Compiler Tree Language (Array Example)

x[2] = 42;



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5

Logic for topmost subtree

```

3 → munchStmMOVE(ExpMEM dst, Exp src) {
    // StmMOVE(ExpMEM(ExpBINOP(+,e1,ExpCONST(i))), e2)
    // above subtree ...
    // StmMOVE(ExpMEM(ExpBINOP(+,ExpCONST(i),e1)), e2)
    // else if above subtree ...
    // StmMOVE(ExpMEM(e1), e2)
    else if above subtree
        Temp.Temp e1 = munchExp( dst.exp );
        Temp.Temp e2 = munchExp( src );
        ...
        emit( new Assem.OPER("sw `s0, 0(`s1)\n", ... );
    }
2 → munchStmMOVE(Exp dst, Exp src) {
    if (dst instanceof ExpMEM) munchStmMOVE((ExpMEM)dst, src);
    ...
}
1 → munchStm(Stm s) {
    if (s instanceof StmMOVE)
        munchStmMOVE((StmMOVE)s.dst, (StmMOVE)s.src);
    ...
}

```

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6