Three-Address Code

- Instructions are very simple
- Examples: `a = b + c`, `x = -y`, `if a > b goto L1`
- LHS is the target and the RHS has at most two sources and one operator
- RHS sources can be either variables or constants
- Three-address code is a generic form and can be implemented as quadruples, triples, indirect triples, tree or DAG
- Example: The three-address code for `a+b*c-d/(b*c)` is below
  1. t1 = b*c
  2. t2 = a+t1
  3. t3 = b*c
  4. t4 = d/t3
  5. t5 = t2-t4

Implementations of 3-Address Code

3-address code

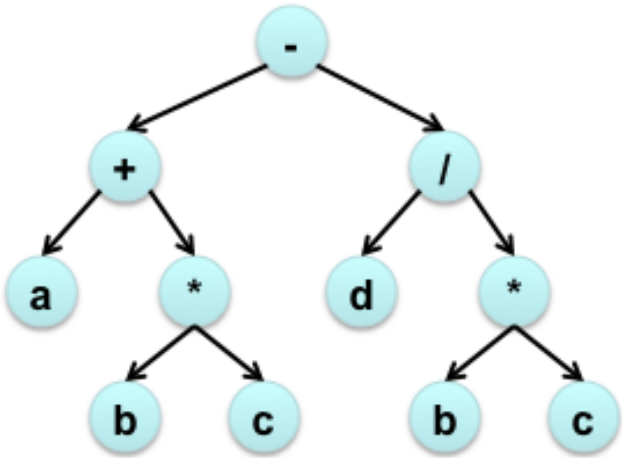
```
1  t1 = b*c
2  t2 = a+t1
3  t3 = b*c
4  t4 = d/t3
5  t5 = t2-t4
```

Quadruples

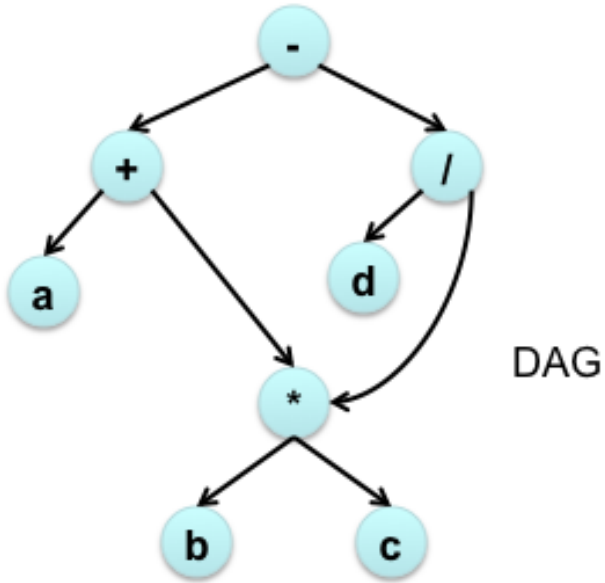
op	arg_1	arg_2	result
*	b	c	t1
+	a	t1	t2
*	b	c	t3
/	d	t3	t4
-	t2	t4	t5

Triples

	op	arg_1	arg_2
0	*	b	c
1	+	a	(0)
2	*	b	c
3	/	d	(2)
4	-	(1)	(3)



Syntax tree



DAG