

## 编译原理第二章(二)

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1. (2.8.1)按照类IF，为FOR语句定义一个类FOR.

*for*(*expr*<sub>1</sub>; *expr*<sub>2</sub>; *expr*<sub>3</sub>)*stmt*;  
*expr*<sub>1</sub>; *while*(*expr*<sub>2</sub>){*stmt*; *expr*<sub>3</sub>; }

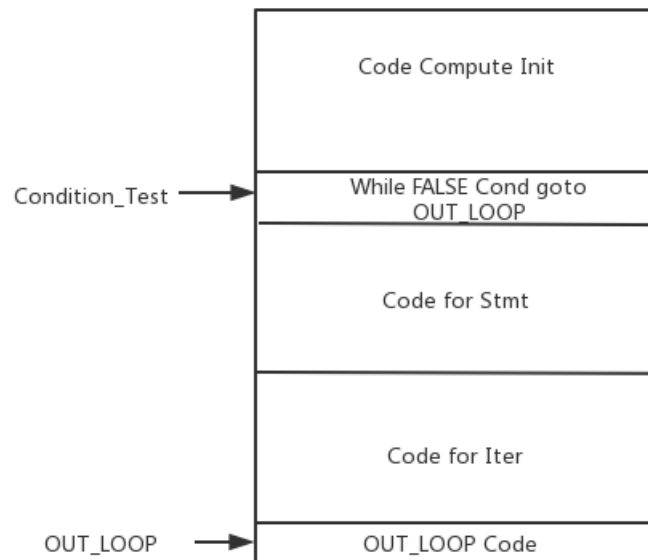


Figure 1: Graph for FOR statement

```
1 class FOR extends Stmt{
2     Expr Init; Expr Cond; Expr Iter; Stmt S;
3     public FOR(Expr e1, Expr e2, Expr e3, Stmt s1){
4         Init = e1; Cond = e2; Iter = e3; S = s1;
5         Cond_Test = newlabel(Cond);
6         OUTLOOP = newlabel();
7     }
8
9     public void gen(){
10         Expr t0 = Init.gen();
11         Expr t1 = t0.rvalue();
12         emit("compute_Init", t1.toString());
13         Expr t2 = Cond.rvalue();
```

```
14         emit("ForCondFalse" + t2.toString() + "goto" + OUTLOOP);
15         S.gen();
16         Iter.gen();
17         emit("goto" + Cond.Test);
18         emit(OUTLOOP);
19     }
20 }
```