

04-17 作业:

P263: 6.6.1 (中文版厚书)

P246: 6.6.1 (中文版薄书)

练习 6.6.1: 在图 6-36 的语法制导定义中添加处理下列控制流构造的规则:

! 2) 一个 for 循环语句, $\text{for} (S_1; B; S_2) S_3$ 。

注: 原题第 2) 小题。

产生式	语义规则
$P \rightarrow S$	$S.next = \text{newlabel}()$ $P.code = S.code \parallel \text{label}(S.next)$
$S \rightarrow \text{assign}$	$S.code = \text{assign.code}$
$S \rightarrow \text{if} (B) S_1$	$B.true = \text{newlabel}()$ $B.false = S_1.next = S.next$ $S.code = B.code \parallel \text{label}(B.true) \parallel S_1.code$
$S \rightarrow \text{if} (B) S_1 \text{ else } S_2$	$B.true = \text{newlabel}()$ $B.false = \text{newlabel}()$ $S_1.next = S_2.next = S.next$ $S.code = B.code$ $\parallel \text{label}(B.true) \parallel S_1.code$ $\parallel \text{gen}('goto' S.next)$ $\parallel \text{label}(B.false) \parallel S_2.code$
$S \rightarrow \text{while} (B) S_1$	$begin = \text{newlabel}()$ $B.true = \text{newlabel}()$ $B.false = S.next$ $S_1.next = begin$ $S.code = \text{label}(begin) \parallel B.code$ $\parallel \text{label}(B.true) \parallel S_1.code$ $\parallel \text{gen}('goto' begin)$
$S \rightarrow S_1 S_2$	$S_1.next = \text{newlabel}()$ $S_2.next = S.next$ $S.code = S_1.code \parallel \text{label}(S_1.next) \parallel S_2.code$

图 6-36 控制流语句的语法制导定义