2237340 王飞阳

编译第十二次作业.

练习9-1：

2.

(1) 倒置：

$S \to @0S0$

$S \to @1S1$

$S \to \varepsilon$

(2) 空字符串

$S \to 1@\varepsilon$

$S \to 0@\varepsilon$

(3) 符号串本身

$S \to 0@0S$

$S \to 1@1S$

$S \to \varepsilon$

(4).

$S \to 0@0S$

$S \to 1S@1$

$S \to \varepsilon$

3.

能识别终结符号串 ENGLISH，并输出 CHINESE

4.

$\langle S \rangle \to @x@y\,b\,@z$

$\langle S \rangle \to @q\,a\,\langle S \rangle @x\,\langle S \rangle @y$

5.

① $\langle S \rangle \to @y\,d\,@x\,c\,@z\,b$: dcb @y@x@z

② $\langle S \rangle \to \langle A \rangle x C \langle B \rangle @y$

$= dxc\,b@x@y$: dxcb @x@y

③ $\langle S \rangle \to \langle A \rangle x C \langle B \rangle @y$

$= b@x\,a@y\,xc\,b@x@y$: baxcb @x@y@x@y

练习9-3

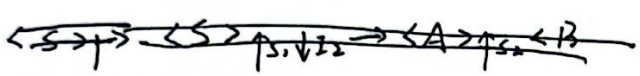
2. ① r受q.u.t.p影响， p受q.u.t影响.

② r受q.p.u.t影响， p受q影响

③ r受q.u影响。 p受q.u.r.t 影响.

3.

①



$\langle S\rangle\uparrow s_1\downarrow I_2 \to \langle A\rangle\uparrow s_2 @f_a \uparrow s_a \downarrow I_{a_1}\downarrow I_{a_2} \langle B\rangle \uparrow s_3\downarrow I_1 @f_b \uparrow s_b\downarrow I_b \langle C\rangle\uparrow s_4\downarrow I_3 @f_c\uparrow s_c\downarrow I_{c_1}\downarrow I_{c_2}$

$\langle D\rangle\uparrow s_5\downarrow I_4 @f_d\uparrow s_b\downarrow I_d.$

$S_a := I_{a_1}, I_{a_2}$, $I_2 := S_a$, $S_2 := I_{a_1}$. $I_1 := I_{a_2}$

$S_b := I_b^2$, $I_3 := S_b$, $I_1 := I_b$

$S_c := I_{c_1} \cdot I_{c_2}$, $I_4 := S_c$, $I_2 := I_{c_1}$, $I_3 := I_{c_2}$, $I_{c_1} := S_a$, $I_{c_2} := S_b$.

$S_d := I_d^2$, $S_1 := S_d$, $S_2 := I_d$. , $I_a := I_{a_1}$

② $\langle S\rangle\uparrow s_1\downarrow I_1 \to \varepsilon @f\uparrow s_2\downarrow I_2$

$S_2 := SIN(I_2)$ $S_1 := S_2$, $I_1 := I_2$

③ $\langle S\rangle\uparrow s_1, s_2 \to \langle A\rangle\uparrow s_3 @f_a S_a\uparrow I_a\downarrow \langle B\rangle\downarrow 2 @f_b S_b\uparrow I_b\downarrow @JOHN\downarrow I_2, I_3 \langle C\rangle I_4 @f_c\uparrow s_c\downarrow I_c$

$S_a := 3\times I_a$; $I_1 := S_a$, $S_3 := I_a$

$S_b := I_b^2$, $I_2 := S_b$, $I_b := S_a$,

$S_2 := S_b$, $I_3 := S_b$, $I_4 := S_b$

$S_c := I_c + 2$, $S_1 := S_c$, $I_c := S_b$