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## 编译原理

2.6

解: (1)  $G_6$  生成的语言  $L(G_6)$  是所有非负整数的集合  
(可能有前导零)

(2)

最左推导:

①  $N \rightarrow ND \rightarrow NDD \rightarrow NDDD \rightarrow DDDD \rightarrow 0DDD \rightarrow 01DD$   
 $\rightarrow 012D \rightarrow 0127$

②  $N \rightarrow ND \rightarrow DD \rightarrow 3D \rightarrow 34$

③  $N \rightarrow ND \rightarrow NDD \rightarrow DDD \rightarrow 5DD \rightarrow 56D \rightarrow 568$

最右推导:

①  $N \rightarrow ND \rightarrow N7 \rightarrow ND7 \rightarrow N27 \rightarrow ND27 \rightarrow N127 \rightarrow$   
 $D127 \rightarrow 0127$

②  $N \rightarrow ND \rightarrow N4 \rightarrow D4 \rightarrow 34$

③  $N \rightarrow ND \rightarrow N8 \rightarrow ND8 \rightarrow N68 \rightarrow D68 \rightarrow 568$

2.8

解: (1)  $itixi$ 

最左推导:  $E \rightarrow T+E \rightarrow F+E \rightarrow itE \rightarrow itT \rightarrow itF \times T$   
 $\rightarrow itixT \rightarrow itixF \rightarrow itixi$







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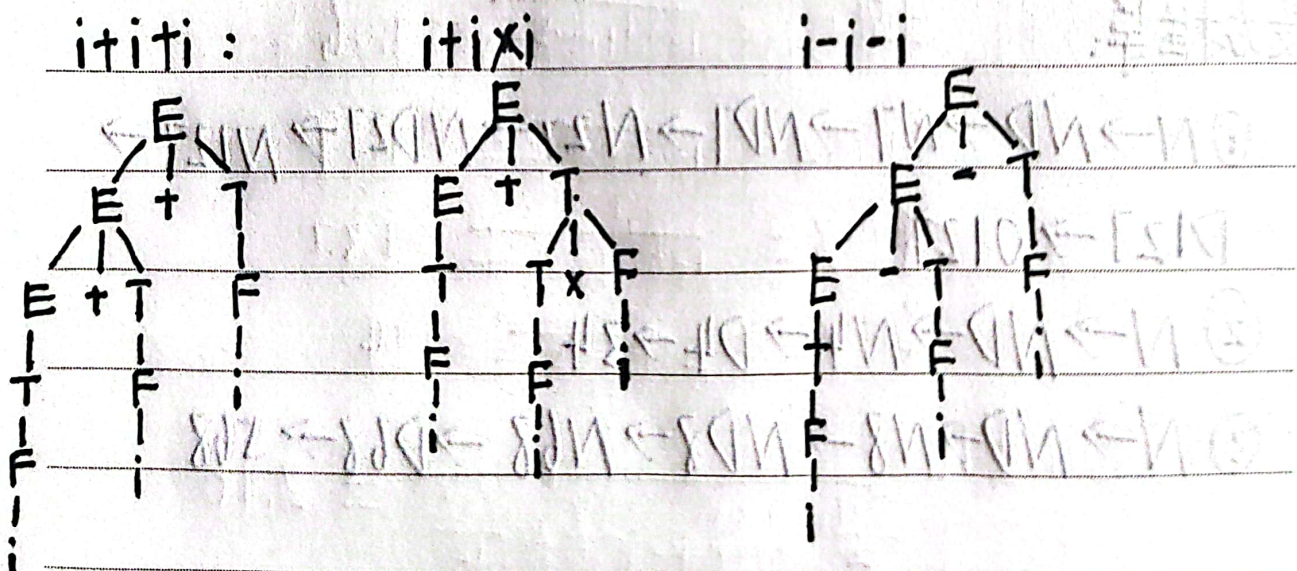
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最右推导:  $E \rightarrow E+T \rightarrow E+T \times F \rightarrow E+T \times i \rightarrow E+T \times i$   
 $\rightarrow E+T \times i \rightarrow T+T \times i \rightarrow F+T \times i \rightarrow i+T \times i$

最左推导:  $E \rightarrow T \rightarrow F \times T \rightarrow i \times T \rightarrow i \times F \rightarrow i \times (E)$   
 $\rightarrow i \times (E+T) \rightarrow i \times (F+T) \rightarrow i \times (i+T) \rightarrow i \times (i+T)$   
 $\rightarrow i \times (i+F) \rightarrow i \times (i+i)$

最右推导:  $E \rightarrow T \rightarrow T \times F \rightarrow T \times (E) \rightarrow T \times (E+T)$   
 $\rightarrow T \times (E+F) \rightarrow T \times (E+i) \rightarrow T \times (F+i)$   
 $\rightarrow T \times (F+i) \rightarrow T \times (i+i) \rightarrow F \times (i+i) \rightarrow i \times (i+i)$

(2) 语法分析树



扫描全能王 创建





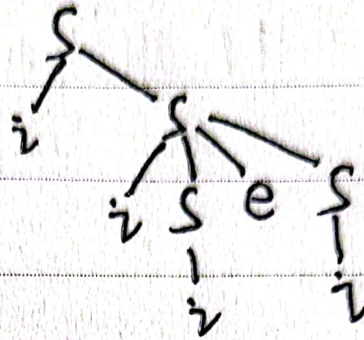
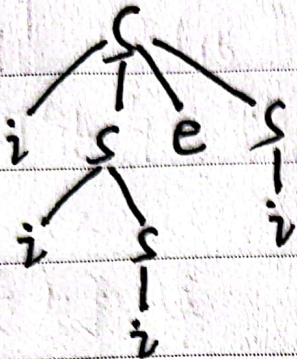
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~~最好理解~~

2.9: 字符串  $iiiei$  对应了以下两种不同的语法树



2.10.  $Q[S]:$   $S \rightarrow TS$   
 $T \rightarrow (S) | ($

