**三、LL（1）分析（22分）**

设有有文法G[S]

（1）S→aH （2）H→aMd|d （3）M→Ab|ε（4）A→aHM|c

1、（12分）先求出各非终结符号的First集和Follow集，然后再求出规则的SELECT集。

解：

|  |  |  |
| --- | --- | --- |
|  | First集 | Follow集 |
| S |  |  |
| H |  |  |
| M |  |  |
| A |  |  |

SELECT(S→aH)={ } SELECT(M→ε)={ }

SELECT(H→aMd)={ } ELECT(A→aHM)={ }

SELECT(H→d)={ } ELECT(A→c)={ }

SELECT(M→Ab)={ }

2、（4分）请完成该文法对应的LL（1）分析表。

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | a | b | c | d | $ |
| S |  |  |  |  |  |
| H |  |  |  |  |  |
| M |  |  |  |  |  |
| A |  |  |  |  |  |

3．（6分）设有某一G[E]文法的LL（1）分析表如下，请根据分析表完成输入符号串 $ici$的分析过程：

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | a | b | c | d | i | $ |
| E | E→TE1 |  |  |  | E→TE1 |  |
| E1 |  | E1→ε | E1→cTE1 |  |  | E1→ε |
| T | T→FT1 |  |  |  | T→FT1 |  |
| T1 |  | T1→ε | T1→ε | T1→dFT1 |  | T1→ε |
| F | F→aEb |  |  |  | F→i |  |

符号串 $ici$分析过程：

|  |  |  |
| --- | --- | --- |
| 分析栈 | 输入符号串 | 所用产生式 |
| **$E** | **ici$** |  |
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