**四、LR分析**

设有文法G[S]

(0)S'→S (1)S→rD (2)D→D\*d (3)D→i

1．(7分)试根据上述文法构造SLR（1）状态描述序列。

|  |  |  |  |
| --- | --- | --- | --- |
| 状态 | 项目集 | 后继符号 | 后继状态 |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

2．(3.5分)根据状态描述序列构造其SLR（1）分析表。

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 状态 |  | ACTION | | | | GOTO | |
|  |  |  |  |  |  |  |
| 0 |  |  |  |  |  |  |  |
| 1 |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |  |

3．(3.5分)符号串的LR分析

(0) L'→L (1) L→EcL (2)L→E (3)E→a (4)E→b

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 状态 | ACTION | | | | GOTO | |
| a | b | c | $ | L | E |
| 0 | S3 | S4 |  |  | 1 | 2 |
| 1 |  |  |  | acc |  |  |
| 2 |  |  | S5 | R2 |  |  |
| 3 |  |  | R3 | R3 |  |  |
| 4 |  |  | R4 | R4 |  |  |
| 5 | S3 | S4 |  |  | 6 | 2 |
| 6 |  |  |  | R1 |  |  |

请根据上述内容给出下述符号串的分析过程 $aca$

|  |  |  |
| --- | --- | --- |
| 状态栈 | 符号栈 | 当前输入符号 |
| 0 | $ |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |