

LR1分析表

状态	ACTION										
	func	key	id	int_num	char_str	+	-	*	/	=	(
0		shift 2	shift 3								
1											
2			shift 4								
3										shift 5	shift 6
4											
5			shift 10	shift 11							shift 12
6			shift 13	shift 14	shift 15						
7						reduce E → A	reduce E → A	shift 16	shift 17		
8						reduce A → B	reduce A → B	reduce A → B	reduce A → B		
9						shift 18	shift 19				
10						reduce B → id	reduce B → id	reduce B → id	reduce B → id		
11						reduce B → int_num	reduce B → int_num	reduce B → int_num	reduce B → int_num		
12			shift 23	shift 24							shift 25
13											
14											
15											
16			shift 10	shift 11							shift 12
17			shift 10	shift 11							shift 12
18			shift 10	shift 11							shift 12
19			shift 10	shift 11							shift 12
20						reduce E → A	reduce E → A	shift 33	shift 34		
21						reduce A → B	reduce A → B	reduce A → B	reduce A → B		
22						shift 35	shift 36				
23						reduce B → id	reduce B → id	reduce B → id	reduce B → id		
24						reduce B → int_num	reduce B → int_num	reduce B → int_num	reduce B → int_num		
25			shift 23	shift 24							shift 25
26											
27											
28											
29						reduce A → A * B	reduce A → A * B	reduce A → A * B	reduce A → A * B		
30						reduce A → A / B	reduce A → A / B	reduce A → A / B	reduce A → A / B		
31						reduce E → E + A	reduce E → E + A	shift 16	shift 17		
32						reduce E → E - A	reduce E → E - A	shift 16	shift 17		
33			shift 23	shift 24							shift 25
34			shift 23	shift 24							shift 25
35			shift 23	shift 24							shift 25
36			shift 23	shift 24							shift 25
37						reduce B → ( E )	reduce B → ( E )	reduce B → ( E )	reduce B → ( E )		
38						shift 35	shift 36				
39						reduce A → A * B	reduce A → A * B	reduce A → A * B	reduce A → A * B		
40						reduce A → A / B	reduce A → A / B	reduce A → A / B	reduce A → A / B		
41						reduce E → E + A	reduce E → E + A	shift 33	shift 34		
42						reduce E → E - A	reduce E → E - A	shift 33	shift 34		
43						reduce B → ( E )	reduce B → ( E )	reduce B → ( E )	reduce B → ( E )		

项目集规范族:

I0:  
 $G' \rightarrow \cdot S', \$$   
 $S' \rightarrow \cdot \text{key id}, \$$   
 $S' \rightarrow \cdot \text{id} = E, \$$   
 $S' \rightarrow \cdot \text{id} (\text{id}), \$$   
 $S' \rightarrow \cdot \text{id} (\text{int\_num}), \$$   
 $S' \rightarrow \cdot \text{id} (\text{char\_str}), \$$

I1:  
 $G' \rightarrow S' \cdot, \$$

I2:  
 $S' \rightarrow \text{key} \cdot \text{id}, \$$

I3:  
 $S' \rightarrow \text{id} \cdot = E, \$$   
 $S' \rightarrow \text{id} \cdot (\text{id}), \$$   
 $S' \rightarrow \text{id} \cdot (\text{int\_num}), \$$   
 $S' \rightarrow \text{id} \cdot (\text{char\_str}), \$$

I4:  
 $S' \rightarrow \text{key id} \cdot, \$$

I5:

```

S' -> id = . E , $
E -> . E + A , $
E -> . E - A , $
E -> . A , $
E -> . E + A , +
E -> . E - A , +
E -> . A , +
E -> . E + A , -
E -> . E - A , -
E -> . A , -
A -> . A * B , $
A -> . A / B , $
A -> . B , $
A -> . A * B , +
A -> . A / B , +
A -> . B , +
A -> . A * B , -
A -> . A / B , -
A -> . B , -
A -> . A * B , *
A -> . A / B , *
A -> . B , *
A -> . A * B , /
A -> . A / B , /
A -> . B , /
B -> . ( E ) , $
B -> . id , $
B -> . int_num , $
B -> . ( E ) , +
B -> . id , +
B -> . int_num , +
B -> . ( E ) , -
B -> . id , -
B -> . int_num , -
B -> . ( E ) , *
B -> . id , *
B -> . int_num , *
B -> . ( E ) , /
B -> . id , /
B -> . int_num , /

```

I6:

```

S' -> id ( . id ) , $
S' -> id ( . int_num ) , $
S' -> id ( . char_str ) , $

```

I7:

```

E -> A . , $
E -> A . , +
E -> A . , -
A -> A . * B , $
A -> A . / B , $
A -> A . * B , +
A -> A . / B , +
A -> A . * B , -
A -> A . / B , -
A -> A . * B , *
A -> A . / B , *
A -> A . * B , /
A -> A . / B , /

```

I8:

```

A -> B . , $
A -> B . , +
A -> B . , -
A -> B . , *
A -> B . , /

```

I9:

```

S' -> id = E . , $
E -> E . + A , $
E -> E . - A , $
E -> E . + A , +
E -> E . - A , +
E -> E . + A , -
E -> E . - A , -

```

I10:

```

B -> id . , $
B -> id . , +
B -> id . , -
B -> id . , *
B -> id . , /

```

I11:

```

B -> int_num . , $
B -> int_num . , +

```

```

B -> int_num . , -
B -> int_num . , *
B -> int_num . , /

```

```

I12:
B -> ( . E ) , $
B -> ( . E ) , +
B -> ( . E ) , -
B -> ( . E ) , *
B -> ( . E ) , /
E -> . E + A , )
E -> . E - A , )
E -> . A , )
E -> . E + A , +
E -> . E - A , +
E -> . A , +
E -> . E + A , -
E -> . E - A , -
E -> . A , -
A -> . A * B , )
A -> . A / B , )
A -> . B , )
A -> . A * B , +
A -> . A / B , +
A -> . B , +
A -> . A * B , -
A -> . A / B , -
A -> . B , -
A -> . A * B , *
A -> . A / B , *
A -> . B , *
A -> . A * B , /
A -> . A / B , /
A -> . B , /
B -> . ( E ) , )
B -> . id , )
B -> . int_num , )
B -> . ( E ) , +
B -> . id , +
B -> . int_num , +
B -> . ( E ) , -
B -> . id , -
B -> . int_num , -
B -> . ( E ) , *
B -> . id , *
B -> . int_num , *
B -> . ( E ) , /
B -> . id , /
B -> . int_num , /

```

```

I13:
S' -> id ( id . ) , $

```

```

I14:
S' -> id ( int_num . ) , $

```

```

I15:
S' -> id ( char_str . ) , $

```

```

I16:
A -> A * . B , $
A -> A * . B , +
A -> A * . B , -
A -> A * . B , *
A -> A * . B , /
B -> . ( E ) , $
B -> . id , $
B -> . int_num , $
B -> . ( E ) , +
B -> . id , +
B -> . int_num , +
B -> . ( E ) , -
B -> . id , -
B -> . int_num , -
B -> . ( E ) , *
B -> . id , *
B -> . int_num , *
B -> . ( E ) , /
B -> . id , /
B -> . int_num , /

```

```

I17:
A -> A / . B , $
A -> A / . B , +
A -> A / . B , -
A -> A / . B , *
A -> A / . B , /
B -> . ( E ) , $
B -> . id , $

```

```

B -> . int_num , $
B -> . ( E ) , +
B -> . id , +
B -> . int_num , +
B -> . ( E ) , -
B -> . id , -
B -> . int_num , -
B -> . ( E ) , *
B -> . id , *
B -> . int_num , *
B -> . ( E ) , /
B -> . id , /
B -> . int_num , /

```

I18:

```

E -> E + . A , $
E -> E + . A , +
E -> E + . A , -
A -> . A * B , $
A -> . A / B , $
A -> . B , $
A -> . A * B , +
A -> . A / B , +
A -> . B , +
A -> . A * B , -
A -> . A / B , -
A -> . B , -
A -> . A * B , *
A -> . A / B , *
A -> . B , *
A -> . A * B , /
A -> . A / B , /
A -> . B , /
B -> . ( E ) , $
B -> . id , $
B -> . int_num , $
B -> . ( E ) , +
B -> . id , +
B -> . int_num , +
B -> . ( E ) , -
B -> . id , -
B -> . int_num , -
B -> . ( E ) , *
B -> . id , *
B -> . int_num , *
B -> . ( E ) , /
B -> . id , /
B -> . int_num , /

```

I19:

```

E -> E - . A , $
E -> E - . A , +
E -> E - . A , -
A -> . A * B , $
A -> . A / B , $
A -> . B , $
A -> . A * B , +
A -> . A / B , +
A -> . B , +
A -> . A * B , -
A -> . A / B , -
A -> . B , -
A -> . A * B , *
A -> . A / B , *
A -> . B , *
A -> . A * B , /
A -> . A / B , /
A -> . B , /
B -> . ( E ) , $
B -> . id , $
B -> . int_num , $
B -> . ( E ) , +
B -> . id , +
B -> . int_num , +
B -> . ( E ) , -
B -> . id , -
B -> . int_num , -
B -> . ( E ) , *
B -> . id , *
B -> . int_num , *
B -> . ( E ) , /
B -> . id , /
B -> . int_num , /

```

I20:

```

E -> A . , )
E -> A . , +
E -> A . , -
A -> A . * B , )

```

```

A → A . / B , )
A → A . * B , +
A → A . / B , +
A → A . * B , -
A → A . / B , -
A → A . * B , *
A → A . / B , *
A → A . * B , /
A → A . / B , /

```

I21:

```

A → B . , )
A → B . , +
A → B . , -
A → B . , *
A → B . , /

```

I22:

```

B → ( E . ) , $
B → ( E . ) , +
B → ( E . ) , -
B → ( E . ) , *
B → ( E . ) , /
E → E . + A , )
E → E . - A , )
E → E . + A , +
E → E . - A , +
E → E . + A , -
E → E . - A , -

```

I23:

```

B → id . , )
B → id . , +
B → id . , -
B → id . , *
B → id . , /

```

I24:

```

B → int_num . , )
B → int_num . , +
B → int_num . , -
B → int_num . , *
B → int_num . , /

```

I25:

```

B → ( . E ) , )
B → ( . E ) , +
B → ( . E ) , -
B → ( . E ) , *
B → ( . E ) , /
E → . E + A , )
E → . E - A , )
E → . A , )
E → . E + A , +
E → . E - A , +
E → . A , +
E → . E + A , -
E → . E - A , -
E → . A , -
A → . A * B , )
A → . A / B , )
A → . B , )
A → . A * B , +
A → . A / B , +
A → . B , +
A → . A * B , -
A → . A / B , -
A → . B , -
A → . A * B , *
A → . A / B , *
A → . B , *
A → . A * B , /
A → . A / B , /
A → . B , /
B → . ( E ) , )
B → . id , )
B → . int_num , )
B → . ( E ) , +
B → . id , +
B → . int_num , +
B → . ( E ) , -
B → . id , -
B → . int_num , -
B → . ( E ) , *
B → . id , *
B → . int_num , *
B → . ( E ) , /
B → . id , /
B → . int_num , /

```

I26:  
 $S' \rightarrow id ( id ) . , \$$

I27:  
 $S' \rightarrow id ( int\_num ) . , \$$

I28:  
 $S' \rightarrow id ( char\_str ) . , \$$

I29:  
 $A \rightarrow A * B . , \$$   
 $A \rightarrow A * B . , +$   
 $A \rightarrow A * B . , -$   
 $A \rightarrow A * B . , *$   
 $A \rightarrow A * B . , /$

I30:  
 $A \rightarrow A / B . , \$$   
 $A \rightarrow A / B . , +$   
 $A \rightarrow A / B . , -$   
 $A \rightarrow A / B . , *$   
 $A \rightarrow A / B . , /$

I31:  
 $E \rightarrow E + A . , \$$   
 $E \rightarrow E + A . , +$   
 $E \rightarrow E + A . , -$   
 $A \rightarrow A . * B , \$$   
 $A \rightarrow A . / B , \$$   
 $A \rightarrow A . * B , +$   
 $A \rightarrow A . / B , +$   
 $A \rightarrow A . * B , -$   
 $A \rightarrow A . / B , -$   
 $A \rightarrow A . * B , *$   
 $A \rightarrow A . / B , *$   
 $A \rightarrow A . * B , /$   
 $A \rightarrow A . / B , /$

I32:  
 $E \rightarrow E - A . , \$$   
 $E \rightarrow E - A . , +$   
 $E \rightarrow E - A . , -$   
 $A \rightarrow A . * B , \$$   
 $A \rightarrow A . / B , \$$   
 $A \rightarrow A . * B , +$   
 $A \rightarrow A . / B , +$   
 $A \rightarrow A . * B , -$   
 $A \rightarrow A . / B , -$   
 $A \rightarrow A . * B , *$   
 $A \rightarrow A . / B , *$   
 $A \rightarrow A . * B , /$   
 $A \rightarrow A . / B , /$

I33:  
 $A \rightarrow A * . B , )$   
 $A \rightarrow A * . B , +$   
 $A \rightarrow A * . B , -$   
 $A \rightarrow A * . B , *$   
 $A \rightarrow A * . B , /$   
 $B \rightarrow . ( E ) , )$   
 $B \rightarrow . id , )$   
 $B \rightarrow . int\_num , )$   
 $B \rightarrow . ( E ) , +$   
 $B \rightarrow . id , +$   
 $B \rightarrow . int\_num , +$   
 $B \rightarrow . ( E ) , -$   
 $B \rightarrow . id , -$   
 $B \rightarrow . int\_num , -$   
 $B \rightarrow . ( E ) , *$   
 $B \rightarrow . id , *$   
 $B \rightarrow . int\_num , *$   
 $B \rightarrow . ( E ) , /$   
 $B \rightarrow . id , /$   
 $B \rightarrow . int\_num , /$

I34:  
 $A \rightarrow A / . B , )$   
 $A \rightarrow A / . B , +$   
 $A \rightarrow A / . B , -$   
 $A \rightarrow A / . B , *$   
 $A \rightarrow A / . B , /$   
 $B \rightarrow . ( E ) , )$   
 $B \rightarrow . id , )$   
 $B \rightarrow . int\_num , )$   
 $B \rightarrow . ( E ) , +$   
 $B \rightarrow . id , +$   
 $B \rightarrow . int\_num , +$   
 $B \rightarrow . ( E ) , -$

```

B -> . id , -
B -> . int_num , -
B -> . ( E ) , *
B -> . id , *
B -> . int_num , *
B -> . ( E ) , /
B -> . id , /
B -> . int_num , /

```

I35:

```

E -> E + . A , )
E -> E + . A , +
E -> E + . A , -
A -> . A * B , )
A -> . A / B , )
A -> . B , )
A -> . A * B , +
A -> . A / B , +
A -> . B , +
A -> . A * B , -
A -> . A / B , -
A -> . B , -
A -> . A * B , *
A -> . A / B , *
A -> . B , *
A -> . A * B , /
A -> . A / B , /
A -> . B , /
B -> . ( E ) , )
B -> . id , )
B -> . int_num , )
B -> . ( E ) , +
B -> . id , +
B -> . int_num , +
B -> . ( E ) , -
B -> . id , -
B -> . int_num , -
B -> . ( E ) , *
B -> . id , *
B -> . int_num , *
B -> . ( E ) , /
B -> . id , /
B -> . int_num , /

```

I36:

```

E -> E - . A , )
E -> E - . A , +
E -> E - . A , -
A -> . A * B , )
A -> . A / B , )
A -> . B , )
A -> . A * B , +
A -> . A / B , +
A -> . B , +
A -> . A * B , -
A -> . A / B , -
A -> . B , -
A -> . A * B , *
A -> . A / B , *
A -> . B , *
A -> . A * B , /
A -> . A / B , /
A -> . B , /
B -> . ( E ) , )
B -> . id , )
B -> . int_num , )
B -> . ( E ) , +
B -> . id , +
B -> . int_num , +
B -> . ( E ) , -
B -> . id , -
B -> . int_num , -
B -> . ( E ) , *
B -> . id , *
B -> . int_num , *
B -> . ( E ) , /
B -> . id , /
B -> . int_num , /

```

I37:

```

B -> ( E ) . , $
B -> ( E ) . , +
B -> ( E ) . , -
B -> ( E ) . , *
B -> ( E ) . , /

```

I38:

```

B -> ( E . ) , )
B -> ( E . ) , +

```

```
B -> ( E . ) , -  
B -> ( E . ) , *  
B -> ( E . ) , /  
E -> E . + A , )  
E -> E . - A , )  
E -> E . + A , +  
E -> E . - A , +  
E -> E . + A , -  
E -> E . - A , -
```

I39:

```
A -> A * B . , )  
A -> A * B . , +  
A -> A * B . , -  
A -> A * B . , *  
A -> A * B . , /
```

I40:

```
A -> A / B . , )  
A -> A / B . , +  
A -> A / B . , -  
A -> A / B . , *  
A -> A / B . , /
```

I41:

```
E -> E + A . , )  
E -> E + A . , +  
E -> E + A . , -  
A -> A . * B , )  
A -> A . / B , )  
A -> A . * B , +  
A -> A . / B , +  
A -> A . * B , -  
A -> A . / B , -  
A -> A . * B , *  
A -> A . / B , *  
A -> A . * B , /  
A -> A . / B , /
```

I42:

```
E -> E - A . , )  
E -> E - A . , +  
E -> E - A . , -  
A -> A . * B , )  
A -> A . / B , )  
A -> A . * B , +  
A -> A . / B , +  
A -> A . * B , -  
A -> A . / B , -  
A -> A . * B , *  
A -> A . / B , *  
A -> A . * B , /  
A -> A . / B , /
```

I43:

```
B -> ( E ) . , )  
B -> ( E ) . , +  
B -> ( E ) . , -  
B -> ( E ) . , *  
B -> ( E ) . , /
```