LR(1) grammar ('' is ε):

```
(0) S' -> Z
(1) Z -> F Z|W Z|V Z|I Z|G Z|A Z|''
(2) F -> (T A;B;3)Z
(3) W -> (B)Z
(4) G -> (i)H
(5) H -> i:Z
(6) I -> (B)Z m Z |(B)Z
(7) V -> T|T 3
(8) A -> d=1
(9) T -> b|s|n|l
(10) 1 -> 1+2|1-2|2
(11) 2 -> 2*3|2/3|i|n|%3|3
(12) 3 -> (1)|i|n
(13) B -> 1 E 1
(14) E ->
```

FIRST table

Nonterminal	FIRST
S'	{(T}
Z	{(T}
F	{(T}
W	{(B)Z}
G	{(i)H}
H	{i:Z}
I	{(B)Z}
V	{T|T}
A	{d=1}
T	{b|s|n|l}
1	{1+2|1-2|2}
2	{2*3|2/3|i|n|%3|3}
3	{(1)|i|n}
B	{1+2|1-2|2}
E	{}

>>

LR(1) closure table

Goto	Kernel	State	Closure
	{[S' -> .Z, $]}	0	{[S' -> .Z, $]; [Z -> .F Z|W Z|V Z|I Z|G Z|A Z|'', $]; [F -> .(T A;B;3)Z, Z|W]}
goto(0, Z)	{[S' -> Z., $]}	1	{[S' -> Z., $]}
goto(0, F)	{[Z -> F.Z|W Z|V Z|I Z|G Z|A Z|'', $]}	2	{[Z -> F.Z|W Z|V Z|I Z|G Z|A Z|'', $]}
goto(0, (T)	{[F -> (T.A;B;3)Z, Z|W]}	3	{[F -> (T.A;B;3)Z, Z|W]}
goto(2, Z|W)	{[Z -> F Z|W.Z|V Z|I Z|G Z|A Z|'', $]}	4	{[Z -> F Z|W.Z|V Z|I Z|G Z|A Z|'', $]}
goto(3, A;B;3)Z)	{[F -> (T A;B;3)Z., Z|W]}	5	{[F -> (T A;B;3)Z., Z|W]}
goto(4, Z|V)	{[Z -> F Z|W Z|V.Z|I Z|G Z|A Z|'', $]}	6	{[Z -> F Z|W Z|V.Z|I Z|G Z|A Z|'', $]}
goto(6, Z|I)	{[Z -> F Z|W Z|V Z|I.Z|G Z|A Z|'', $]}	7	{[Z -> F Z|W Z|V Z|I.Z|G Z|A Z|'', $]}
goto(7, Z|G)	{[Z -> F Z|W Z|V Z|I Z|G.Z|A Z|'', $]}	8	{[Z -> F Z|W Z|V Z|I Z|G.Z|A Z|'', $]}
goto(8, Z|A)	{[Z -> F Z|W Z|V Z|I Z|G Z|A.Z|'', $]}	9	{[Z -> F Z|W Z|V Z|I Z|G Z|A.Z|'', $]}
goto(9, Z|'')	{[Z -> F Z|W Z|V Z|I Z|G Z|A Z|''., $]}	10	{[Z -> F Z|W Z|V Z|I Z|G Z|A Z|''., $]}

LR table

State	ACTION																								GOTO																							
	Z|W	Z|V	Z|I	Z|G	Z|A	Z|''	(T	A;B;3)Z	(B)Z	(i)H	i:Z	m	|(B)Z	T|T	d=1	b|s|n|l	1+2|1-2|2	2*3|2/3|i|n|%3|3	(1)|i|n		$	S'	Z	F	W	G	H	I	V	A	T	1	2	3	B	E										
0							s3															1	2																										
1																					acc																													
2	s4																																																
3								s5																																									
4		s6																																															
5	r_2																																															
6			s7																																														
7				s8																																													
8					s9																																												
9						s10																																											
10																					r_1																												

Input (tokens): c d d

Maximum number of steps: 100

PARSE

Trace

Step	Stack	Input	Action	Tree
1	0	c d d $		