

Consider the following grammar. (number) represent production number of grammar.

S → NP VP (1)

S → X NP VP (2)

S → VP (3)

NP → D N (4)

NP → V (5)

VP → V NP (6)

D → this (7)

D → that (8)

D → a (9)

D → the (10)

N → book (11)

N → flight (12)

N → john (13)

N → ball (14)

N → meal (15)

V → book (16)

V → include (17)

V → read (18)

X → does (19)

X → a (20)

Its SLR-1 table is given below. (more clear image can be found in folder)

	\$	a	does	read	include	book	flight	meal	ball	john	the	that	this	S	VP	NP	D	N	V	X
0		s14	s13	s12	s11	s10					s9	s8	s7	s6	s5	s4	s3	s2	s1	
1		s24									s9	s8	s7			s23	s3			
2	r(VP → V)	s24									s9	s8	s7			s22	s3			
3						s21	s20	s19	s18	s17								s16		
4			s12	s11	s10										s15			s2		
5	r(S → VP)																			
6	acc																			
7						r(D → this)	r(D → this)	r(D → this)	r(D → this)	r(D → this)										
8						r(D → that)	r(D → that)	r(D → that)	r(D → that)	r(D → that)										
9						r(D → the)	r(D → the)	r(D → the)	r(D → the)	r(D → the)										
10	r(V → book)	r(V → book)									r(V → book)	r(V → book)	r(V → book)							
11	r(V → include)	r(V → include)									r(V → include)	r(V → include)	r(V → include)							
12	r(V → read)	r(V → read)									r(V → read)	r(V → read)	r(V → read)							
13		r(X → does)									r(X → does)	r(X → does)	r(X → does)							
14		r(X → a)				r(D → a)	r(D → a)	r(D → a)	r(D → a)	r(D → a)	r(X → a)	r(X → a)	r(X → a)							
15	r(S → NP VP)																			
16	r(NP → D N)			r(NP → D N)	r(NP → D N)	r(NP → D N)														
17	r(N → john)			r(N → john)	r(N → john)	r(N → john)														
18	r(N → ball)			r(N → ball)	r(N → ball)	r(N → ball)														
19	r(N → meal)			r(N → meal)	r(N → meal)	r(N → meal)														
20	r(N → flight)			r(N → flight)	r(N → flight)	r(N → flight)														
21	r(N → book)			r(N → book)	r(N → book)	r(N → book)														
22	r(VP → V NP)																			
23			s12	s11	s10										s25			s2		
24						r(D → a)	r(D → a)	r(D → a)	r(D → a)	r(D → a)										
25	r(S → X NP VP)																			

Parsing table can be found in table.csv file, where columns are separated by commas (,).

You need to implement SLR-1 parsing algorithm for this parsing table, consider input already tokenized (no lexical analysis required).

Each stack operation should be properly displayed.