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10 Consider the following grammar

$S \rightarrow PQRSd \mid \epsilon$
$P \rightarrow e \mid f \mid \epsilon$
$Q \rightarrow g \mid h \mid \epsilon$
$R \rightarrow b \mid q$

Check whether the given grammar is LL(1) or not.

Nonterminals	Input symbols: d	e	f	g	h	b	q
S	S→PQRSd						
P		P→e	P→f				
Q				Q→g	Q→h		
R						R→b	R→q

Parsing table contains single entries in each column, grammar is considered as LL(1)

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12 In a mango juice factory company, a robotic machine is used to pack mangoes in boxes. Each box should contain both yellow and green mangoes the mangoes followed by the green ones. Machine is not programmed to place the mangoes in any other order. It seals the box, only if no. of yellow mangoes is greater than green ones. Else box is rejected by machine.

a) write language.

b) CFG in (a)

c) Check ambiguous.

a) $(Y+G)^*$

b) $L = \{ y^n g^m \mid n \geq m \}$

$S \rightarrow YX \mid XG$

$X \rightarrow yXg \mid \epsilon$

$Y \rightarrow yY \mid y$

$G \rightarrow gG \mid g$

c) $S \rightarrow YX \Rightarrow S \rightarrow yYX$

$\Rightarrow S \rightarrow yY$

Not Ambiguous