Exercice 12

(G)
- E → E + E
- E → E * E
- E → int

Considérons une grammaire augmenté (G') de (G) tel que

(G')
- E' → E (0)
- E → E + E (1)
- E → E * E (2)
- E → int (3)

First(E) = {int} ; Follow(E) = {$,+,*}

1) Construction des items LR(1)

I_0 = Fermeture([E' → .E, $]) = {[E' → .E, $],[E → .E+E, $], [E → .E*E, $], [E → .int, $]}
I_1 = Transition(I_0, E) = Fermeture([E' → E., $],[E → E.+E, $], [E → E.*E, $]) = {[E' → E., $], [E → E.+E, $], [E → E.*E, $]}
I_2 = Transition(I_0, int) = Fermeture([E → int., $]) = {[E → int., $]}
I_3 = Transition(I_1,+) = Fermeture([E → E+.E, $]) = {[E → E+.E, $],[E → .E+E, $], [E → .E*E, $], [E → .int, $]}
I_4 = Transition(I_1,*) = Fermeture([E → E*.E, $]) = {[E → E*.E, $],[E → .E+E, $], [E → .E*E, $], [E → .int, $]}
I_5 = Transition(I_3,E) = Fermeture([E → E+E., $], [E → E.+E, $], [E → E.*E, $]) = {[E → E+E., $], [E → E.+E, $], [E → E.*E, $]}
Transition(I_3,int) = Fermeture([E → int., $]) = {[E → int., $]} = I_2
I_6 = Transition(I_4,E) = Fermeture([E → E*E., $], [E → E.+E, $], [E → E.*E, $]) = {[E → E*E., $], [E → E.+E, $], [E → E.*E, $]}
Transition(I_4,int) = Fermeture([E → int., $]) = {[E → int., $]} = I_2
Transition(I_5,+) = Fermeture([E → E+.E, $]) = I_3
Transition(I_5,*) = Fermeture([E → E*.E, $]) = I_4
Transition(I_6,+) = Fermeture([E → E+.E, $]) = I_3
Transition(I_6,*) = Fermeture([E → E*.E, $]) = I_4

2) Construction de la table Action/Goto

Etat	**Action**				**Goto**
	int	**+**	*****	**$**	**E**
0	S_2			Accept	1
1		S_3	S_4		
2		R_3	R_3	R_3	
3	S_2				5
4	S_2				6
5		R_1 S_3	R_1 S_4	R_1	
6		R_2 S_3	R_2 S_4	R_2	

R_i = Reduce i (i étant la règle de production de (G') de numéro i)
Sj = Shift j (j étant la règle de production de (G') de numéro j)