

CSE 420 : COMPIER DESIGN

MIDTERM

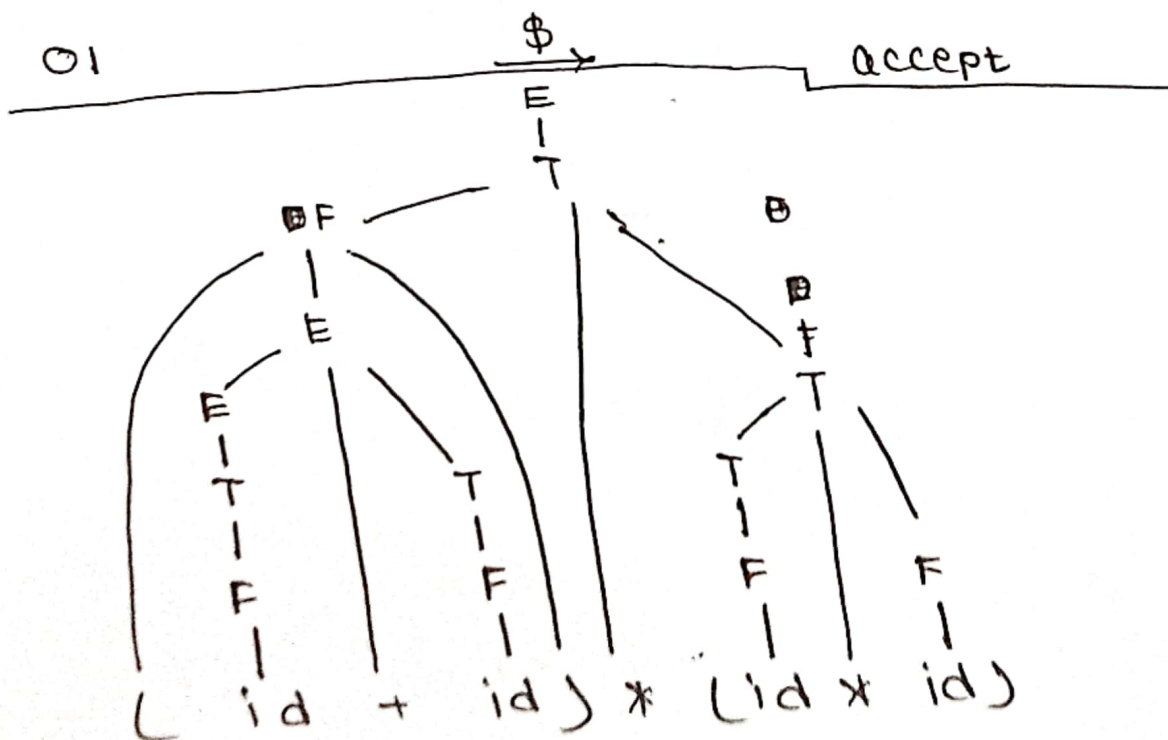
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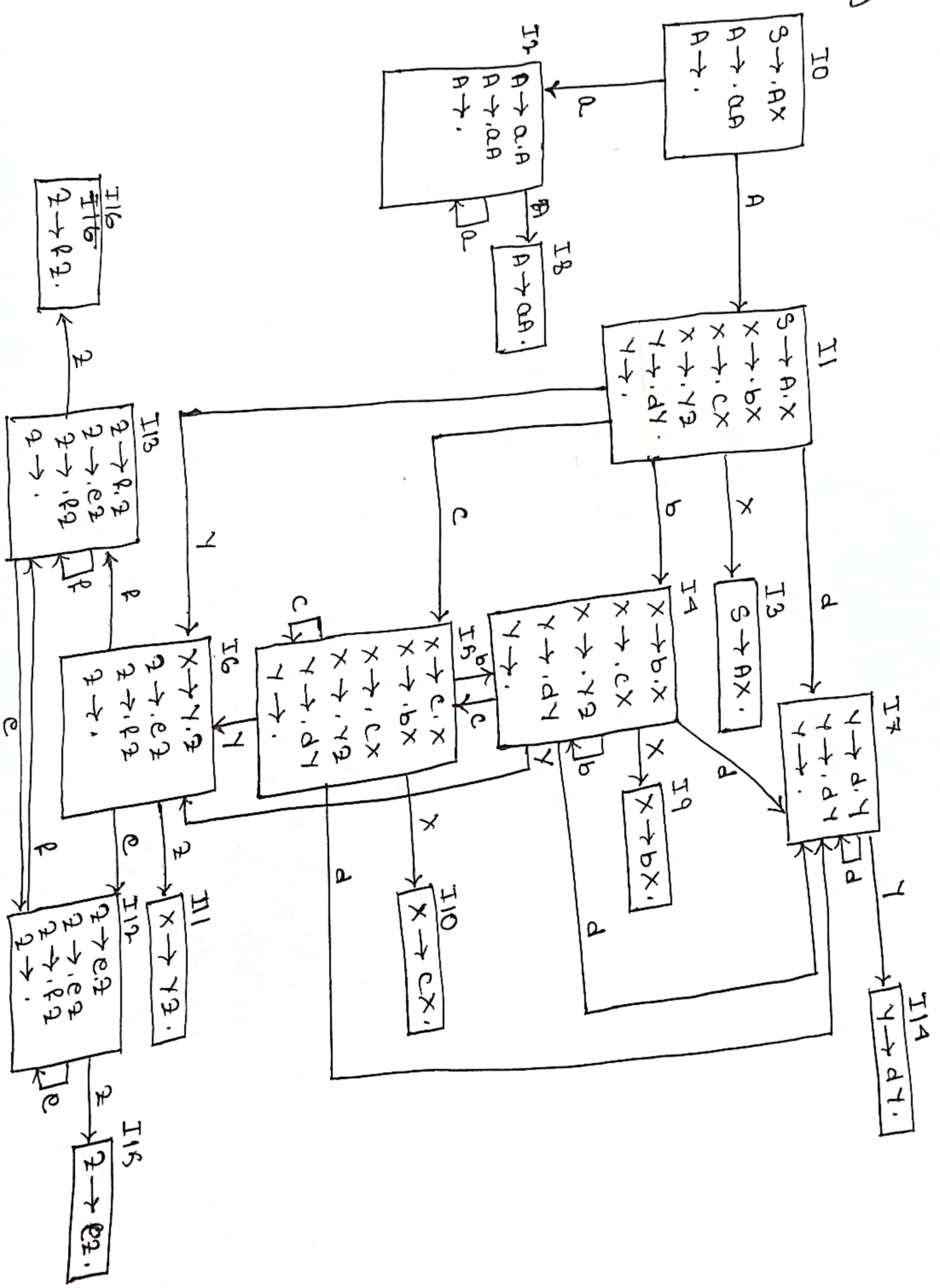
SECTION: 02

(1) Stack	Input	Action
0	<u>(id+id)*(id*id)</u>	S4 (shift)
0 1	<u>id+id)*(id*id)</u>	S5 (shift)
0 1 5	<u>+id)*(id*id)</u>	R6 (reduce) $F \rightarrow id$
0 1 2	<u>+id)*(id*id)</u>	R4 (reduce) $T \rightarrow F$
0 1 2	<u>+id)*(id*id)</u>	R7 (reduce) $E \rightarrow T$
0 1 8	<u>+id)*(id*id)</u>	S6 (shift)
0 1 8 6	<u>id)*(id*id)</u>	S5 (shift)
0 1 8 6 5	<u>)*(id*id)</u>	R6 (reduce) $F \rightarrow id$
0 1 8 6 2	<u>)*(id*id)</u>	R4 (reduce) $T \rightarrow F$
0 1 8 6 2	<u>)*(id*id)</u>	R1 (reduce) $E \rightarrow E+T$
0 1 8	<u>)*(id*id)</u>	S11 (shift)
0 1 8 11	<u>*(id*id)</u>	R5 (reduce) $F \rightarrow (E)$
0 2	<u>*(id*id)</u>	R4 (reduce) $T \rightarrow F$
0 2	<u>*(id*id)</u>	S7 (shift)
0 2 7	<u>(id*id)</u>	S4 (shift)
0 2 7 1	<u>id*id)</u>	S5 (shift)
0 2 7 1 5	<u>*id)</u>	R6 (reduce) $F \rightarrow id$

Stack	Input	Action
0 2 7 4 <del>8</del>	<del>*</del> id)	n4 (reduce) $T \rightarrow F$
0 2 7 4 2	<del>*</del> id)	S7 (shift)
0 2 7 4 2 7	id)	S8 (shift)
0 2 7 4 2 7 <del>8</del>	)	n6 (reduce) $F \rightarrow id$
0 2 7 4 2 7 <del>10</del>	)	n3 (reduce) $T \rightarrow T * F$
0 2 7 4 <del>2</del>	)	n2 (reduce) $E \rightarrow T$
0 2 7 4 8	)	S11 (shift)
0 2 7 <del>8</del> <del>8</del> <del>8</del>	\$	n5 (reduce) $F \rightarrow (E)$
0 <del>2</del> <del>7</del> <del>10</del>	\$	n3 (reduce) $T \rightarrow T * F$
0 <del>8</del> <del>8</del>	\$	n42 (reduce) $E \rightarrow T$



(2)



$FOLLOW(A) = \{b, c, d, e, f, \$\}$

$FOLLOW(X) = \{\$ \}$

$FOLLOW(Z) \rightarrow \{\$ \}$

$FOLLOW(Y) = \{f, e\}$

$FOLLOW(S) \rightarrow \{b, c, d, e, f, \$\}$

State	ACTION							GOTO				
	a	b	c	d	e	f	\$	S	A	X	Y	Z
0	52	02	02	02	02	02	02		1			
1		34	35	37	07	07	07			3	6	
2	32	02	02	02	02	02	02		8			
3							acc					
4		34	35	37	07	07	07			9	6	
5		34	35	37	07	07	07			10		
6					512	313	010					11
7				37	07	07	07				14	
8		01	01	01	01	01	01					
9							acc					
10					07	07	07					
11		01	01	01	01	01	05					15
12					312	313	010					15
13					312	313	010					16
14					06	06	06					
15							06					
16							09					