

Alpha algorithm

Guide to 4th Step:

$(\{a\}, \{b\})$

1: $a \rightarrow b$
 2: $a \rightarrow a$
 3: $b \rightarrow a$

case 1

$(\{a\}, \{b, e\})$

1: $a \rightarrow b$
 $a \rightarrow e$
 2: $a \rightarrow a$
 $b \rightarrow b$
 $e \rightarrow e$
 3: $b \rightarrow e$
 $e \rightarrow e$

4: $a \parallel a$
 $b \parallel b$
 $e \parallel e$

==

case 2

case 3:

جس row میں ایک ہی طرح کے arrow ہوں گے وہاں group والی scheme لگانی ہے۔

c.g	a	b	c	d	e	
a		→		→		$(a, \{b, e\})$
b						$(a, \{b, c\})$
c						
d		←	←	←		$(\{b, c\}, d)$
e						$(\{b, d\}, d)$

یہ گروپ نہیں گئے یا نہیں
case 2 سے verify کرنا ہے

Give footprint matrix

	a	b	c	d	e	f	g
a	#	→	#	#	#	#	#
b	←	#	→	→	#	←	#
c	#	←	#	///	→	#	#
d	#	←	///	#	→	#	#
e	#	#	←	←	#	→	→
f	#	→	#	#	←	#	#
g	#	#	#	#	←	#	#

$\gamma_L =$

$\{ \{b, c\}, \{b, d\}, \{c, e\}$

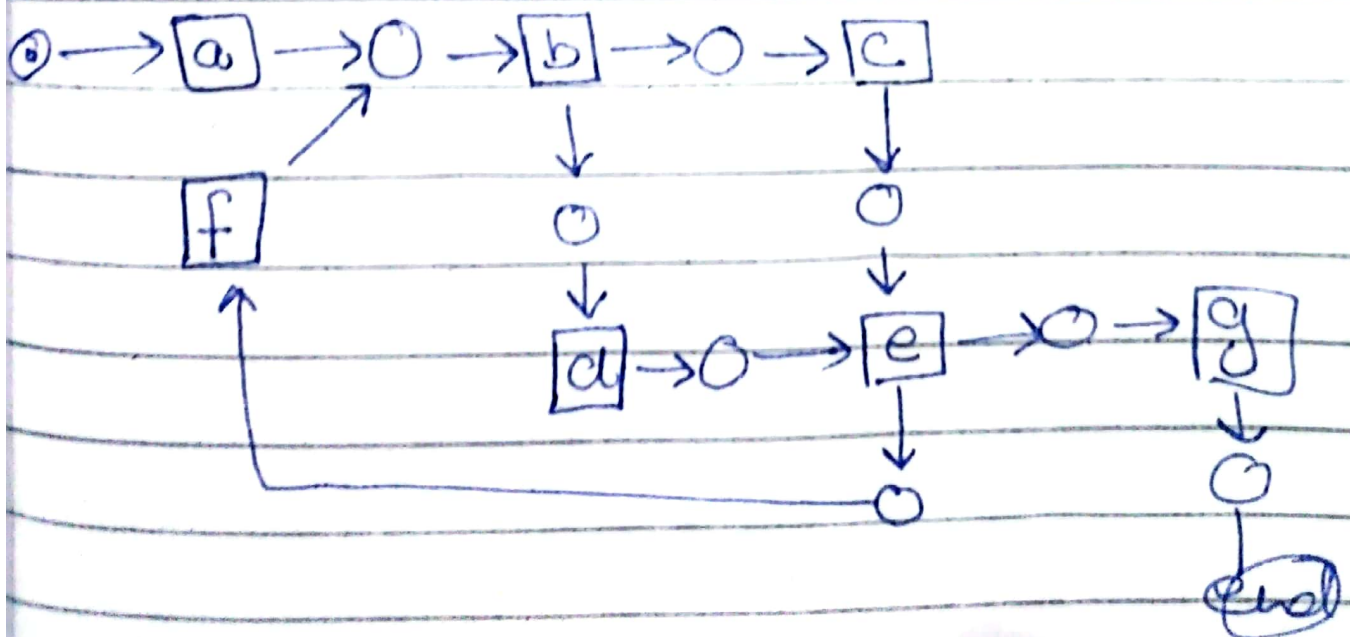
$\{d, e\}, \{e, f, g\}, \{a, f, b\} \}$

$P_L = \{ (\gamma_L), i_L, o_L \}$

$FL = \{ (b, P(\{b\}, \{e\})), (P(\{b\}, \{e\}), e), \dots \dots \dots$

$(a, P(\{a, f\}, \{b\})), (f, P(\{a, f\}, \{b\})),$

$(P(\{a, f\}, \{b\}), b), i_L, a, g, o_L \}$



Practise Question

$$L = \left[\langle a, b, e, f \rangle, \langle a, b, e, e, d, b, f \rangle^3, \right. \\ \left. \langle a, b, c, e, d, b, f \rangle^2, \langle a, b, c, d, e, b, f \rangle^4, \right. \\ \left. \langle a, e, b, c, d, b, f \rangle^3 \right]$$

Footprint Matrix

	a	b	c	d	e	f
a	#	→				
b	←	#	→	←	→	
c		←	#	→	⦿	→
d		→	←	#	⦿	
e	←	⦿	⦿	⦿	⦿	
f		←			#	→
					←	#

$$T_L = \{a, b, c, d, e, f\}$$

$$T_i = \{a\}$$

$$T_o = \{f\}$$

$$X_L = \{(\{a\}, \{b\}), (\{a\}, \{e\}), (\{b\}, \{c\}), (\{b\}, \{f\})$$

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

$$(\{a\}, \{b, e\}), (\{b\}, \{c, f\}),$$

$$(\{a, d\}, \{b\})\}$$

$$Y_L = \{(\{b\}, \{c, f\}), (\{a, d\}, \{b\})$$

$$(\{a\}, \{e\}), (\{c\}, \{d\}), (\{e\}, \{f\}),$$

$$\}$$

$$P_L = \{P(\{b\}, \{c, f\}), P(\{a, d\}, \{b\}),$$

$$P(\{a\}, \{e\}), P(\{c\}, \{d\}), P(\{e\}, \{f\}),$$

$$\}, i_L, o_L\}$$

$$F_L = \left\{ (b, P_{(\{b\}, \{c, f\})}), (P_{(\{b\}, \{c, f\})}, c), \right. \\
(P_{(\{b\}, \{c, f\})}, f), (a, P_{(\{a, d\}, \{b\})}), \\
(d, P_{(\{a, d\}, \{b\})}), (P_{(\{a, d\}, \{b\})}, b), \\
(a, P_{(\{a\}, \{e\})}), (P_{(\{a\}, \{e\})}, e), \\
(c, P_{(\{c\}, \{d\})}), (P_{(\{c\}, \{d\})}, d), \\
(e, P_{(\{e\}, \{f\})}), (P_{(\{e\}, \{f\})}, f), \\
\left. (i_L, a), (f, o_L) \right\}$$

$$\alpha(L) = (P_L, T_L, F_L)$$

○ → [a] → ○ → [e] → ○ → [f] → ○_{end}

