Ans. 1

① Tid — List of items — Min_sup = 2

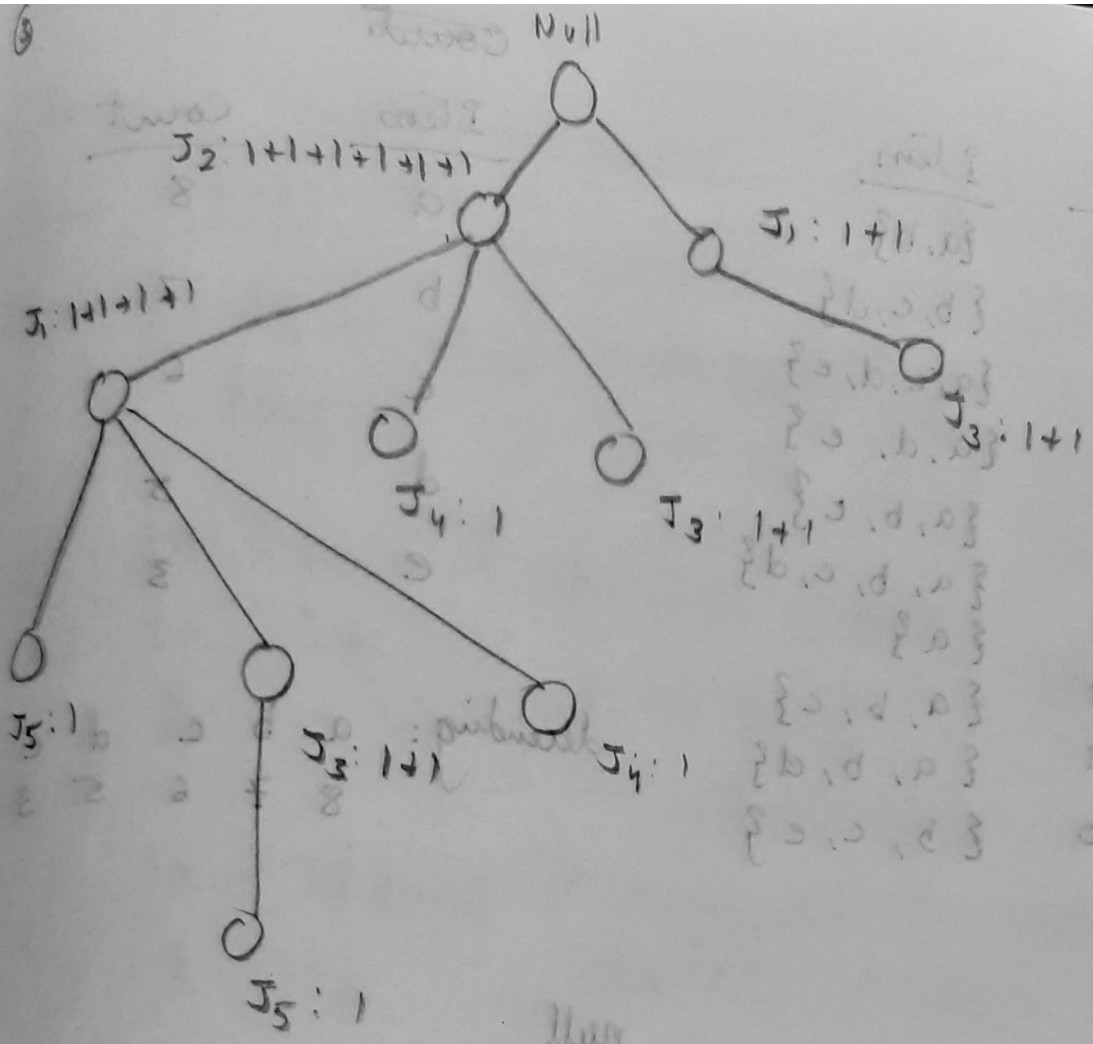
Tid	List of items
T_{100}	J_1 J_2 J_5
T_{200}	J_2 J_4
T_{300}	J_2 J_3
T_{400}	J_1 J_2 J_4
T_{500}	J_1 J_3
T_{600}	J_2 J_7
T_{700}	J_1 J_3
T_{800}	J_1 J_2 J_3 J_5
T_{900}	J_1 J_2 J_3

②

Items	Count
J_1	6
J_2	7
J_3	6
J_4	2
J_5	2

Items	Count
J_2	7
J_1	6
J_3	6
J_4	2
J_5	2

③



④ Conditional base pattern: start from min sup. val. = J_5

Exclude mon sup val = J_2

Item	Conditional pattern Base	Conditional FP tree	FP gusted
J_5	$\{J_2, J_1, : 1\}$ $\{J_2, J_1, J_3 : 1\}$	$\{J_2 : 2\}$ $\{J_3 : 1\}$ $\{J_1 : 2\}$	$\{J_2, J_5 : 2\}$ $\{J_1, J_5 : 2\}$ $\{J_2, J_1, J_5 : 2\}$
J_4	$\{J_2 : 1\}$ $\{J_2, J_1 : 1\}$	$\{J_2 : 2\}$ $\{J_1 : 1\}$	$\{J_2, J_4 : 2\}$
J_3	$\{J_2 : 2\}$ $\{J_2, J_1 : 2\}$ $\{J_1 : 2\}$	$\{J_2 : 2\}$ $\{J_1 : 1\}$ $\{J_1 : 2\}$	$\{J_2 J_3 : 2\}$ $\{J_1 J_3 : 2\}$ $\{J_2 J_1 J_3 : 2\}$
J_1	$\{J_2 : 4\}$	$\{J_2 : 4\}$	$\{J_2, J_1 : 4\}$

Ans · 2

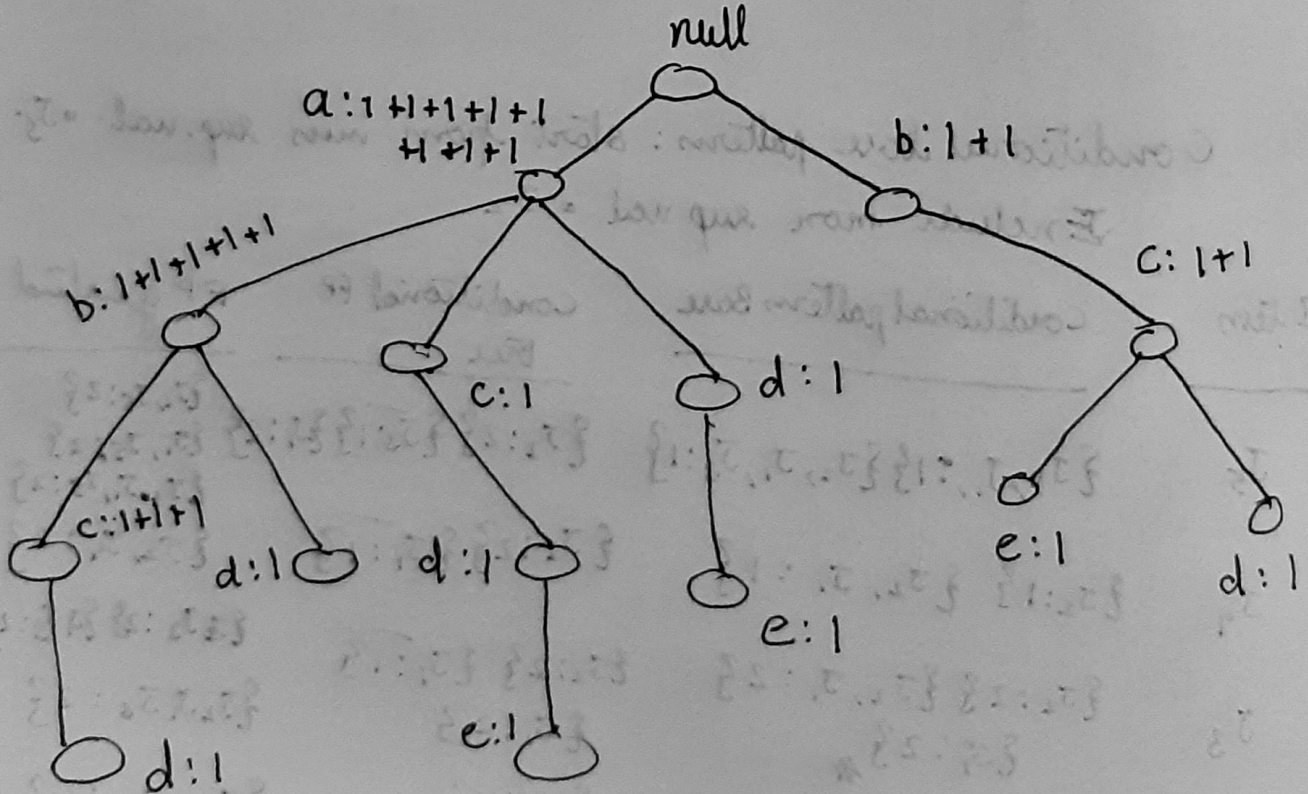
TID	Item
1	{a, b}
2	{b, c, d}
3	{a, c, d, e}
4	{a, d, e}
5	{a, b, c}
6	{a, b, c, d}
7	{a}
8	{a, b, c}
9	{a, b, d}
10	{b, c, e}

~~Count~~

Item	Count
a	8
b	7
c	6
d	5
e	3

decending:

a	b	c	d	e
8	7	6	5	3



Conditional base patterns :-

Items	conditional pattern base	conditional FP tree	FP generated
e	{a, d:1} {a, c, d:1} {b, c:1}	{a:2} {b:1} {c:2} {d:2}	
d	{a:1} {b, c:1} {a, c:1} {a, b:1} {a, b, c:1}	{a:4} {b:2} {c:2} {b:1} {c:1}	{a, d:4}
c	{a, b:3} {a:1} {b:2}	{a:4} {b:3} {b:2}	{a, c:4} {b, c:3} {a, b, c:3}
b	{a:5}	{a:5}	{a, b:5}

Trans. 3

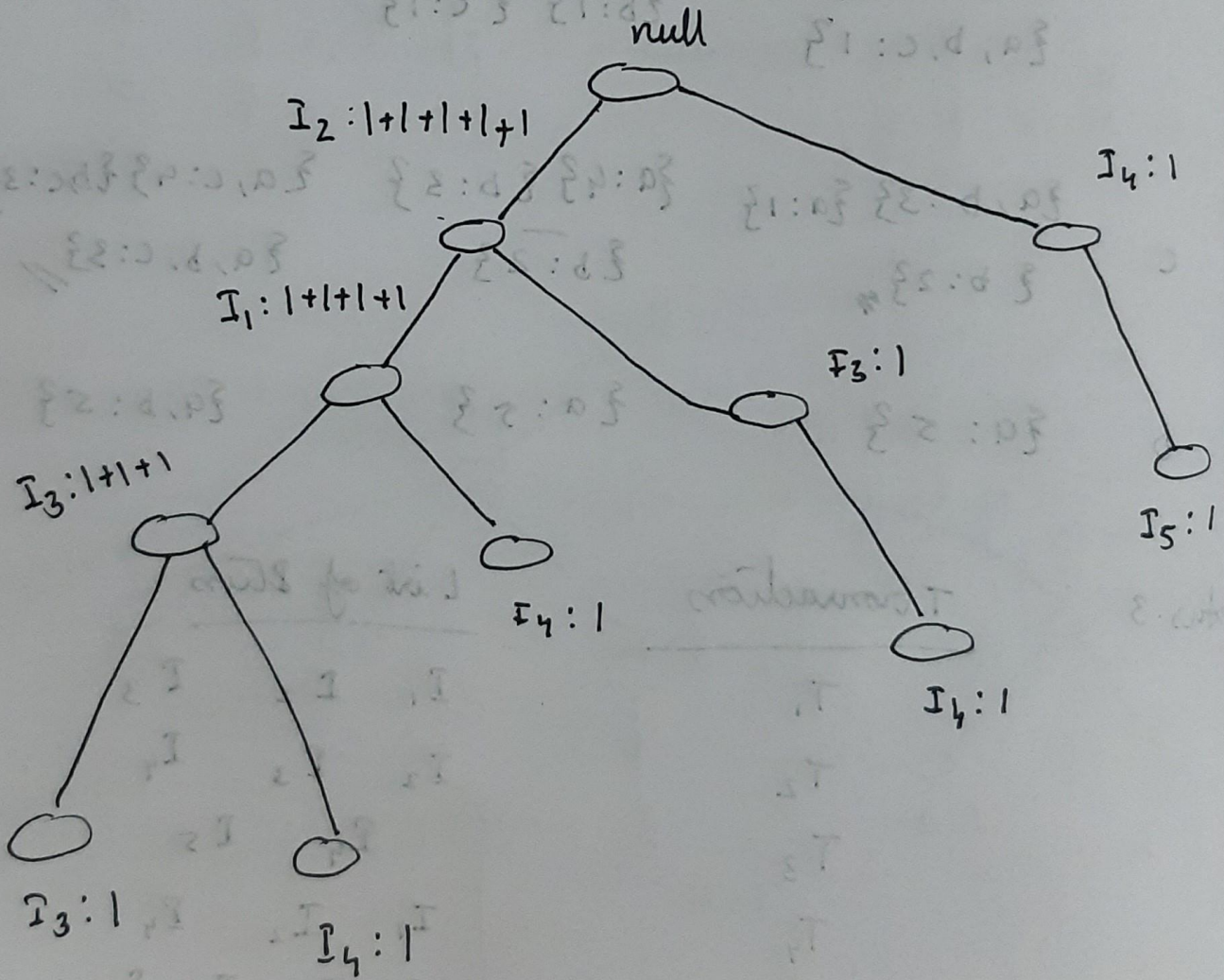
Transaction	List of Items
T_1	I_1 I_2 I_3
T_2	I_2 I_3 I_4
T_3	I_4 I_5
T_4	I_1 I_2 I_4
T_5	I_1 I_2 I_3 I_5
T_6	I_1 I_2 I_3 I_4

Support threshold = $\frac{50}{100} \times 5 = 2.4$

I_1	4
I_2	5
I_3	4
I_4	4
I_5	2

descending

I_2	5
I_1	4
I_3	4
I_4	4
I_5	2



conditional base patterns :-

Items	conditional pattern base	conditional FP tree	FP generated
I_5	$\{I_2, I_1, I_3 : 1\}$ $\{I_4 : 1\}$	$\{\overline{I_2 : 1}\}$ $\{\overline{I_1 : 1}\}$	
		$\{\overline{I_3 : 1}\}$ $\{\overline{I_4 : 1}\}$	
I_4	$\{I_2, I_1, I_3 : 1\}$	$\{I_2 : 3\}$ $\{\overline{I_1 : 2}\}$	$\{I_2, I_4 : 3\}$
	$\{I_2, I_3 : 1\}$ $\{I_2, I_1 : 1\}$	$\{\overline{I_3 : 2}\}$	
I_3	$\{I_2 : 1\}$ $\{I_2, I_1 : 3\}$	$\{I_2 : 4\}$ $\{I_1 : 3\}$	$\{I_2, I_3 : 4\}$
			$\{I_1, I_3 : 3\}$
			$\{I_2, I_1, I_3 : 3\}$
I_1	$\{I_2\}$	$\{I_2 : 4\}$	$\{I_2, I_1 : 4\}$