

A. Generate the frequent pattern Tree for given dataset min-support ≥ 3

Step-1

1.)	TID	Items	Item	frequency
	1	E K M N O Y	A	1
	2	D E K N O Y	C	2
	3	A E K M	D	1
	4	C K M O Y	E	4
	5	C E I K O	I	1
			K	5
			M	3
			N	2
			O	3
			U	1
			Y	3

$\{K:5, E:4, O:3, M:3, Y:3\}$

Step-2

TID	Sorted items
1	K E M O Y
2	K E O Y
3	K E M
4	K M Y
5	K E O

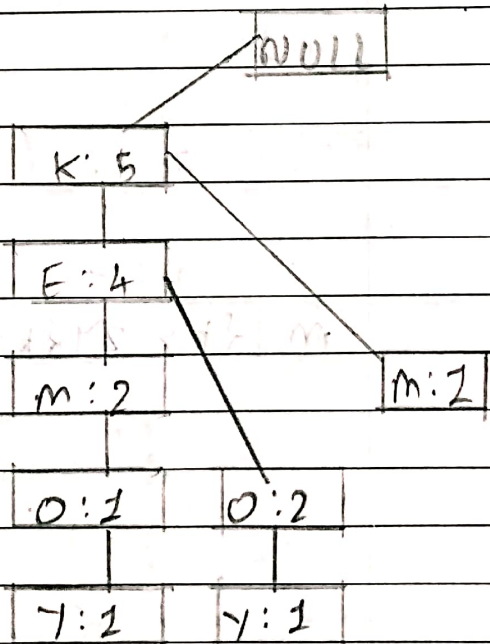
→ K E M O Y

K E O Y

K E M

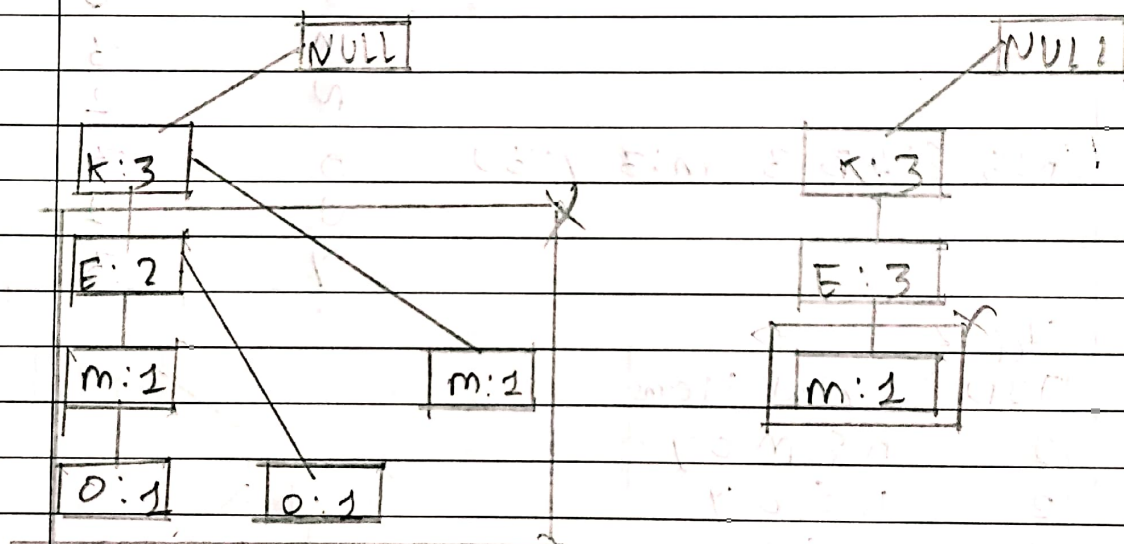
K M Y

K E O



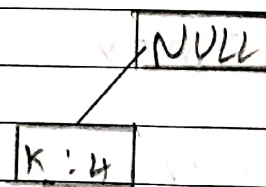
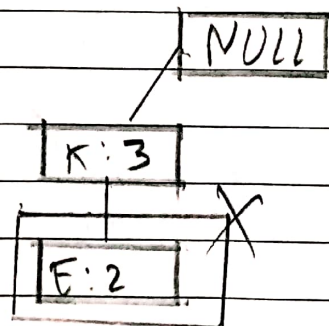
Item	Conditional Pattern Base
y	$\{k \varepsilon m o : 1\} \{k \varepsilon o : 1\} \{k m : 1\}$
o	$\{k \varepsilon m : 1\} \{k \varepsilon : 2\}$
m	$\{k \varepsilon : 2\} \{k : 1\}$
ε	$\{k : 4\}$
k	-

y	$\{k \varepsilon m o : 1\} \{k \varepsilon o : 1\} \{k m : 1\}$	$\{k : 3\}$
o	$\{k \varepsilon m : 1\} \{k \varepsilon : 1\} \{k \varepsilon : 2\}$	$\{k : 3\} \{ \varepsilon : 3\}$



m	$\{k \varepsilon : 2\} \{k : 1\} \{k : 3\}$
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ε	$\{k : 4\} \{k : 4\}$
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Conditional FP-Tree and frequency pattern growth

item	Conditional Base Pattern	Conditional FP	Frequent Patterns generated
y	{k, e, m: 1} {k, e, o: 2} {k, m: 2}	{k: 3}	{k, y: 3}
o	{k, e, m: 1} {k, e: 2}	{k: 3, e: 3}	{k, o: 3} {e, o: 3} {k, e, o: 3}
m	{k, e: 2} {k: 1}	{k: 3}	{k, m: 3}
e	{k: 4}	{k: 4}	{k, e: 4}
k	-	-	

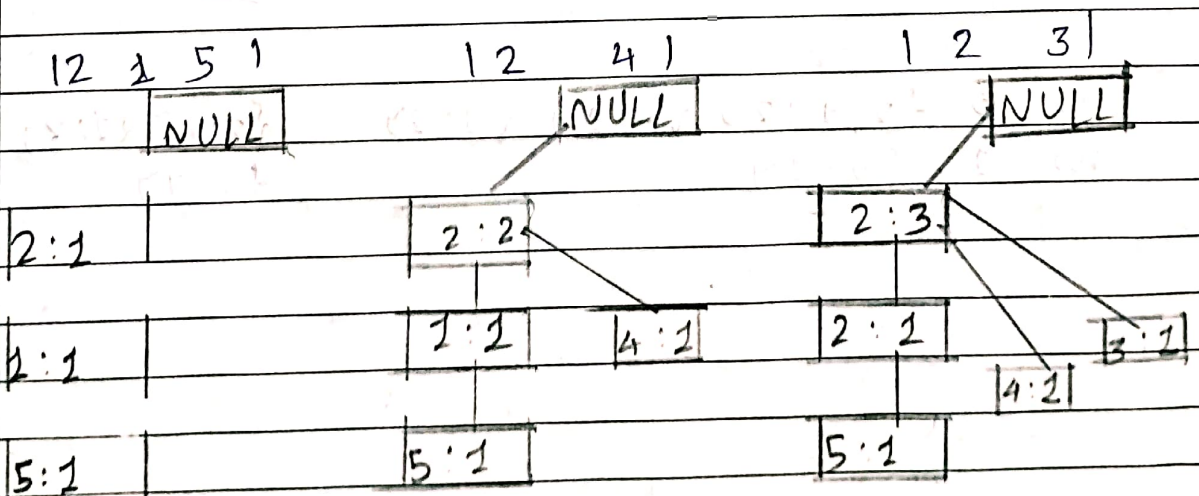
Step-2

2

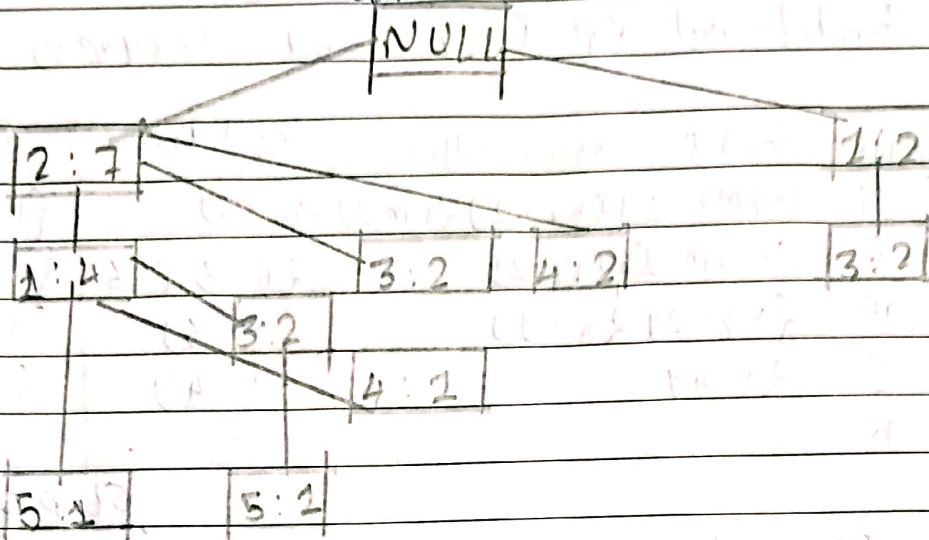
TID	Items	TID	Items
1	1 2 5	1	2 1 5
2	2 4	2	2 4
3	2 3	3	2 3
4	1 2 4	4	2 1 4
5	1 3	5	1 3
6	2 3	6	2 3
7	1 3	7	1 3
8	1 2 3 5	8	2 1 3 5
9	1 2 3	9	2 1 3

Step-1

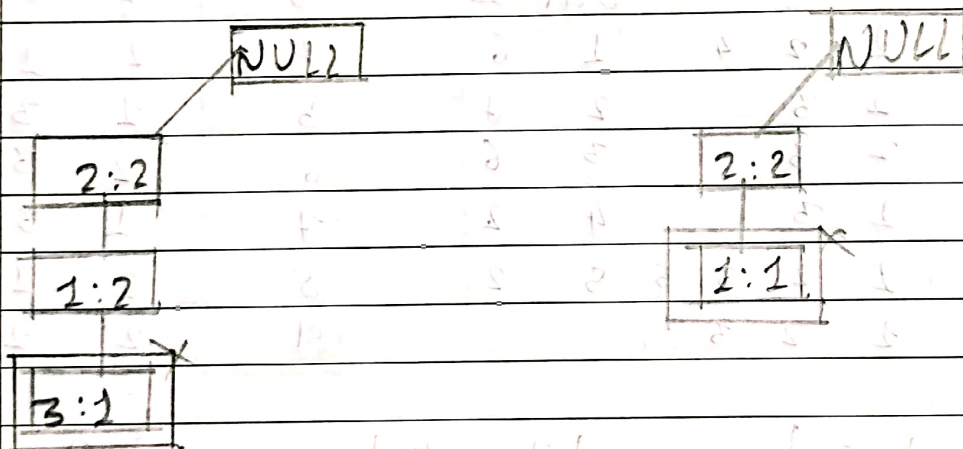
1	6
2	7
3	6
4	2
5	2



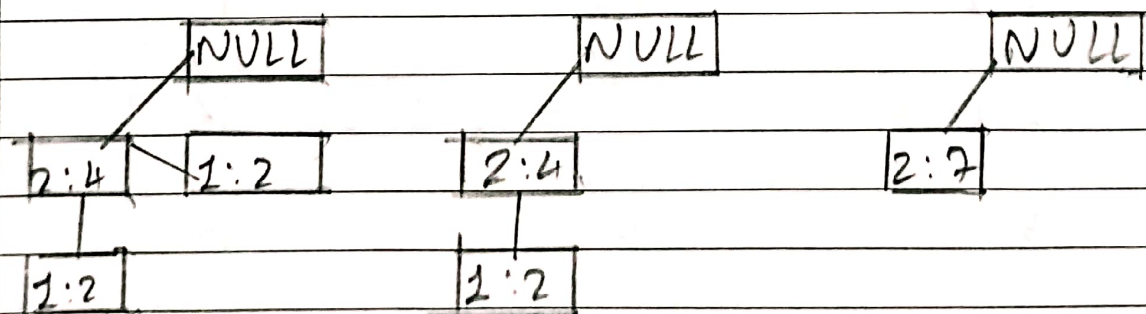
2 1 4 cond all...



- | | | | |
|-----|---|-----------------------|-----------------|
| 1.) | 5 | { 2, 1:1 } { 2, 3:1 } | { 2:2 } { 1:2 } |
| 2.) | 4 | { 2, 1:1 } { 2:1 } | { 2:2 } |



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|-----|---|----------------------------|-----------------|
| 3.) | 3 | { 2, 1:2 } { 2:2 } { 1:2 } | { 2:4 } { 1:3 } |
| 4.) | 1 | { 2:7 } | { 2:7 } |



Item	Conditional pattern	Conditional FP-Type	Frequent patterns generated
	Base		
1	$\{2:4\}$	$\{2:4\}$	$\{1, 2:4\}$
2	-	-	-
3	$\{2:2\}, \{1:2\}, \{2:1:2\}$	$\{2:4\}, \{1:4\}$	$\{2, 3:2\}, \{1, 3:2\}$ $\{2, 1, 3:2\}$
4	$\{2:1\}, \{2, 1:1\}$	$\{2:2\}$	$\{2, 4:2\}$
5	$\{2, 1:1\}, \{2, 1, 3:1\}$	$\{2:2\}, \{1:2\}$	$\{2, 5:2\}, \{1, 5:2\}$