4.2.5.2 FP-Tree Construct

Q

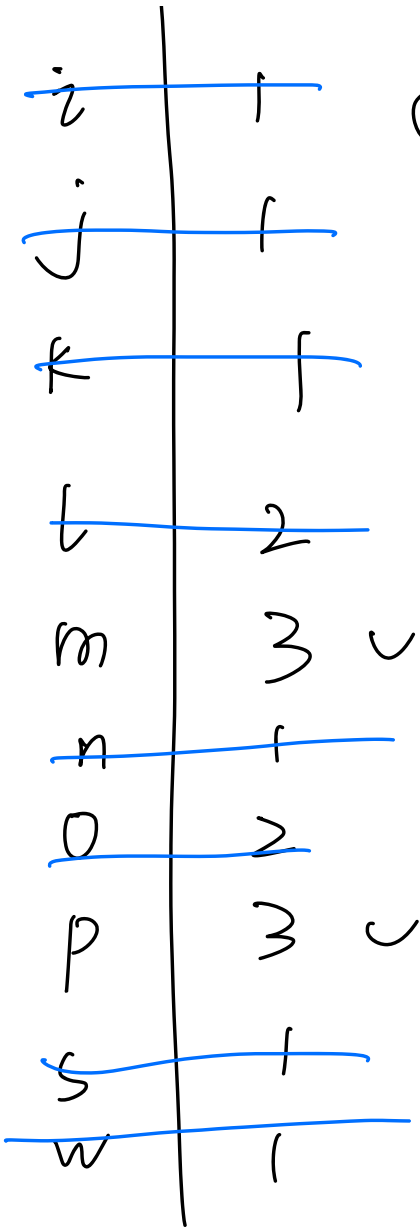
TID	Items bought (minsup=3)
100	{f, a, c, d, g, i, m, p}
200	{a, b, c, f, l, m, o}
300	{b, f, h, j, o, w}
400	{b, c, k, s, p}
500	{a, f, c, e, l, p, m, n}

Solution ① Scan DB

itemset	σ	
a	3	✓
b	3	✓
c	4	✓
~~d~~	~~1~~	
~~e~~	~~1~~	
f	4	✓
~~g~~	~~1~~	
~~h~~	~~1~~	

minsup = 3

{f, a, c, d, g, i, m, p}
{a, b, c, f, l, m, o}
{b, f, h, j, o, w}
{b, c, k, s, p}
{a, f, c, e, l, p, m, n}



② Sorted list

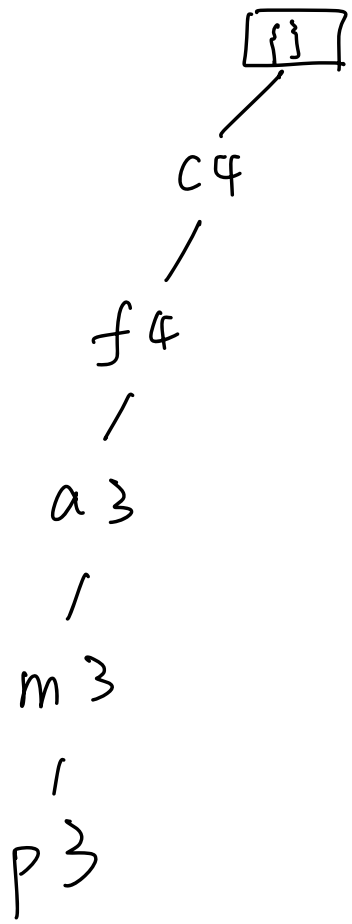
itemset	σ
c	4
f	4
a	3
b	3
m	3
p	3

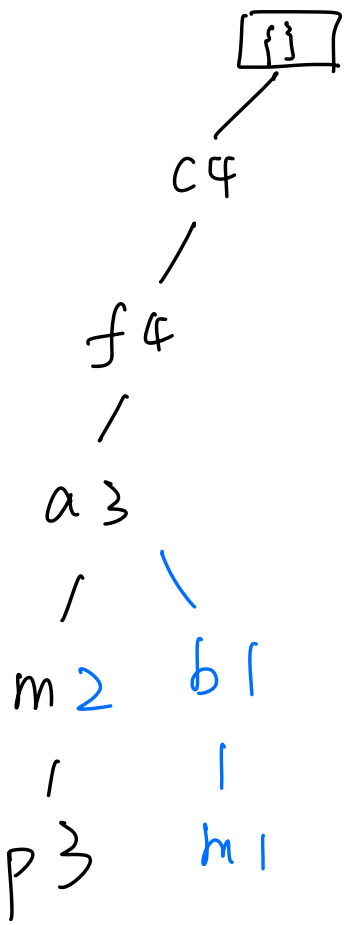
② sort frequent items in frequency descending order, F-list

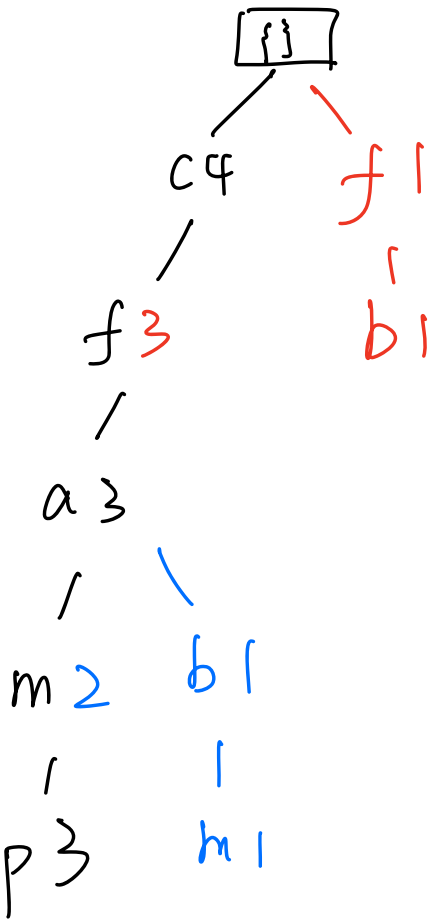
Sort can not follow Alphabeta order but we recommend it.

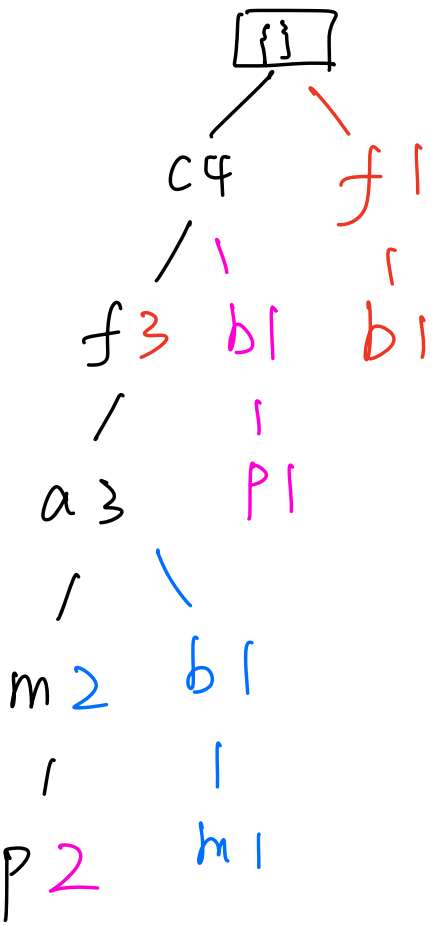
TID	f-list
100	c f a m p
200	c f a b m
300	f b
400	c b p
500	c f a m p

③ Construct FP-tree base on f-list





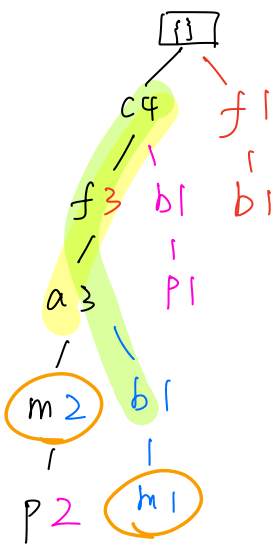




④ construct conditional FP-Tree : m

m cond. Pattern Base

cond. Pattern Base	count
c f a	2
c f a b	1



pB	o
c	3
f	3
a	3
~~b~~	~~1~~

minsup = 3

So, m-conditional FP Tree is

{}
|
c:3
|
f:3
|
a:3

frequent itemsets is {cfa}+m

m cm fm am cfm cam

fam