

#### 4.2.5.2 Construct FP-Tree

| Q | TID | Items bought    |
|---|-----|-----------------|
|   | 100 | f a c d g i m p |
|   | 200 | a b c f l m o   |
|   | 300 | b f h j o u     |
|   | 400 | b c k s p       |
|   | 500 | a f c e l p m n |

Solution ① Scan find frequent 1-itemset,  $\text{minsup}=3$

| TID | Items bought    |
|-----|-----------------|
| 100 | f a c d g i m p |
| 200 | a b c f l m o   |
| 300 | b f h j o u     |
| 400 | b c k s p       |
| 500 | a f c e l p m n |

| Item | $\sigma$ |
|------|----------|
| a    | 3        |
| b    | 3        |
| c    | 4        |
| f    | 4        |
| m    | 3        |
| p    | 3        |

② Head Table. +  $\alpha$  p order

| item | $\sigma$ |
|------|----------|
| c    | 4        |
| f    | 4        |
| a    | 3        |
| b    | 3        |
| m    | 3        |
| p    | 3        |

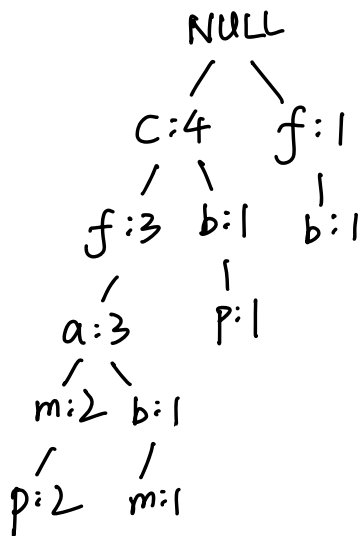
③ list

| TID | Items bought |
|-----|--------------|
| 100 | f a c m p    |
| 200 | a b c f m    |
| 300 | b f          |
| 400 | b c p        |
| 500 | a f c p m    |

④ ordered frequent items

| TID | Items bought |
|-----|--------------|
| 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    |

⑤ construct FP-Tree



⑥ m conditional pattern base

{c f a: 2, c f a b: 1}

$\Rightarrow \{c: 3, f: 3, a: 3, \cancel{b: 1}\}$

$\Rightarrow \{c:3, f:3, a:3\}$

⑦ conditional FP-tree

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