

Cloud Computing for Data Analysis
Group Activity 03 – FP-Tree
Chapter 6 Exercise 8

Build and mine FP-Tree using the data below (Min Support 3)

Table 6.24. Example of market basket transactions.

Transaction ID	Items Bought
1	{a, b, d, e}
2	{b, c, d}
3	{a, b, d, e}
4	{a, c, d, e}
5	{b, c, d, e}
6	{b, d, e}
7	{c, d}
8	{a, b, c}
9	{a, d, e}
10	{b, d}

Answer: Items with min support is 3 are:

$\text{Sup}(a) = 5$

$\text{Sup}(b) = 7$

$\text{Sup}(c) = 5$

$\text{Sup}(d) = 9$

$\text{Sup}(e) = 6$

Order:

$\text{Sup}(d) = 9$

$\text{Sup}(b) = 7$

$\text{Sup}(e) = 6$

$\text{Sup}(a) = 5$

$\text{Sup}(c) = 5$

Ordered Transactions as per items' support count:

d b e a

d b c

d b e a

d e a c

d b e c

d b e

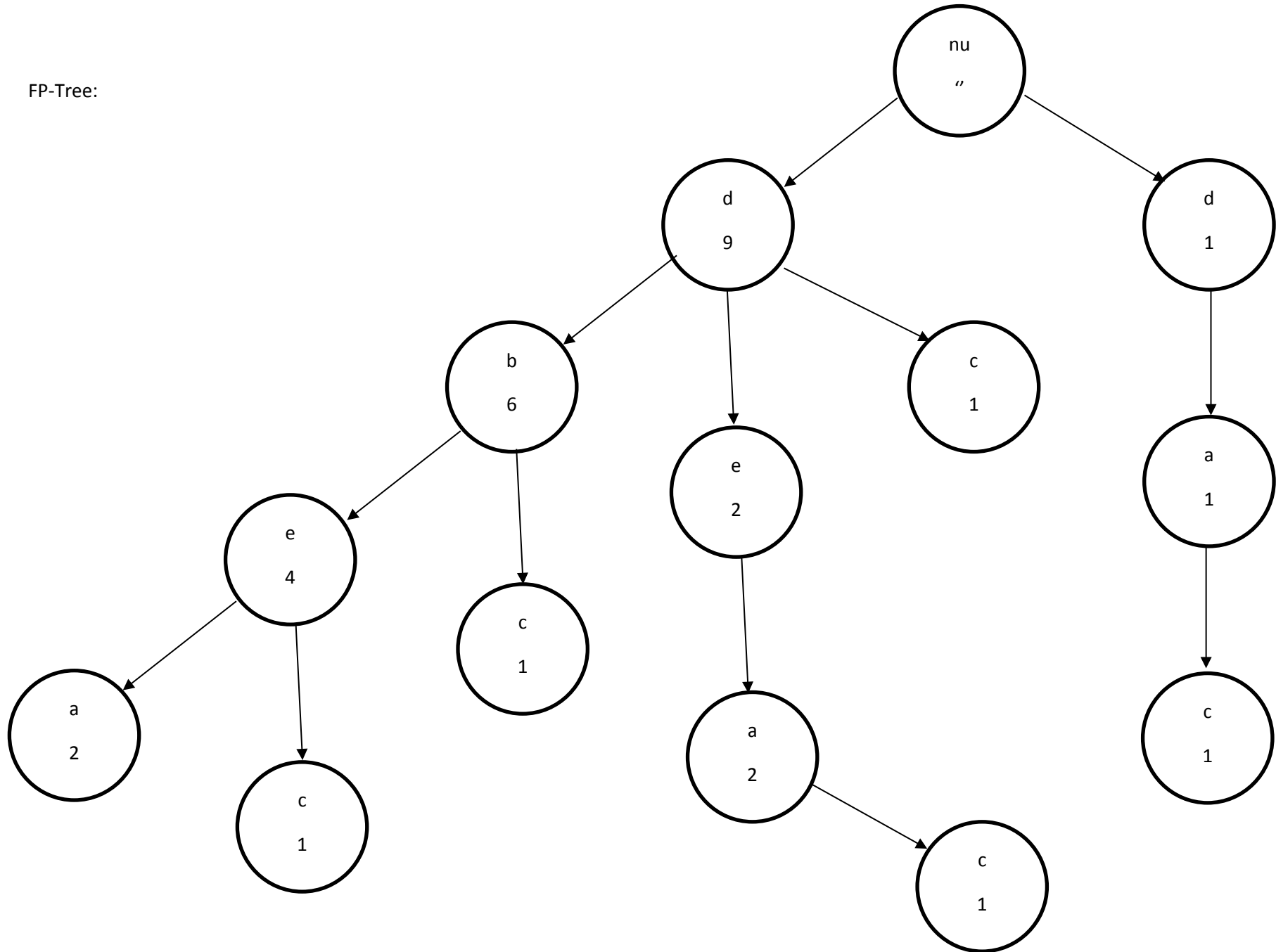
d c

b a c

d e a

d b

FP-Tree:



Item: a

Suffix Pattern: a – 5

Prefix Paths

(d, b, e, a, 2) => (d, e, b, 2)

(d, e, a, 2) => (d, e, 2)

(b, a, 1)

Correct Order

d – 4

e – 4

b – 3

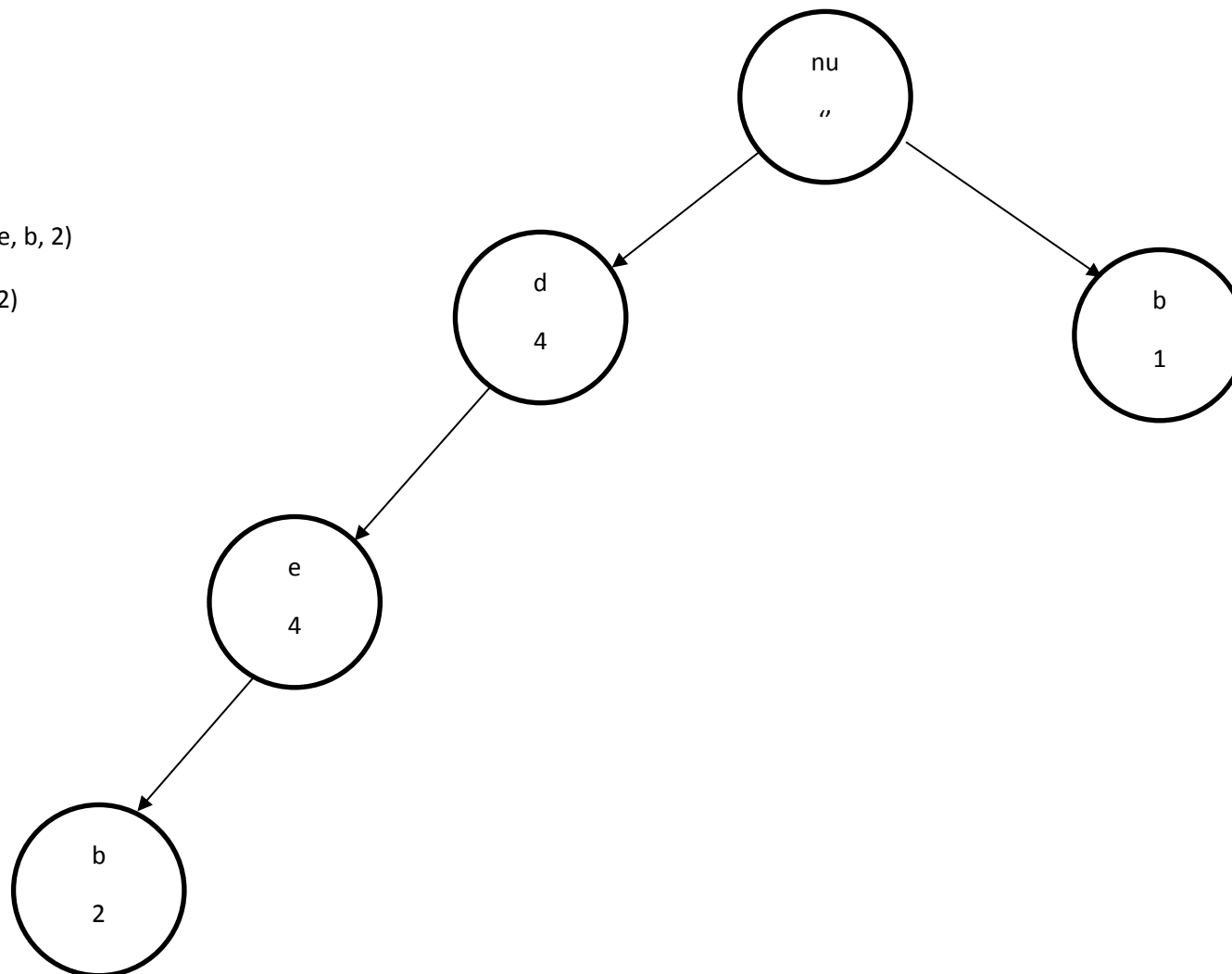
Frequent Item-Sets

(d, e, a, 4)

(d, a, 4)

(b, a, 3)

(e, a, 4)



Item: b

Suffix Pattern: b – 7

Prefix Paths

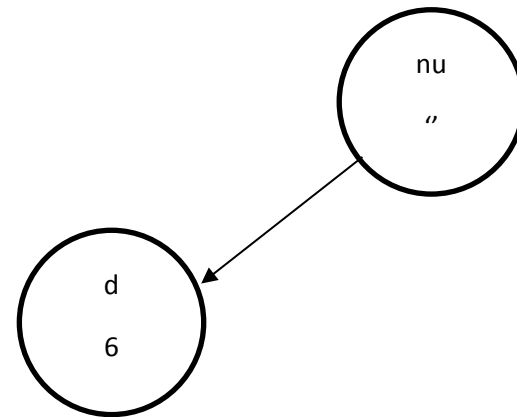
(d, b, 6)

Correct Order

d – 6

Frequent Item-Sets

(d, b, 6)



Item: c

Suffix Pattern: c – 5

Prefix Paths

(d, b, e, 1) => (d, b, 1)

(d, e, a, e, 1) => (d, a, e, 1)

(d, e, 1)

(b, a, e, 1) => (b, a, 1)

(d, b, e, e, 1) => (d, b, e, 1)

Correct Order

d – 3

b – 2

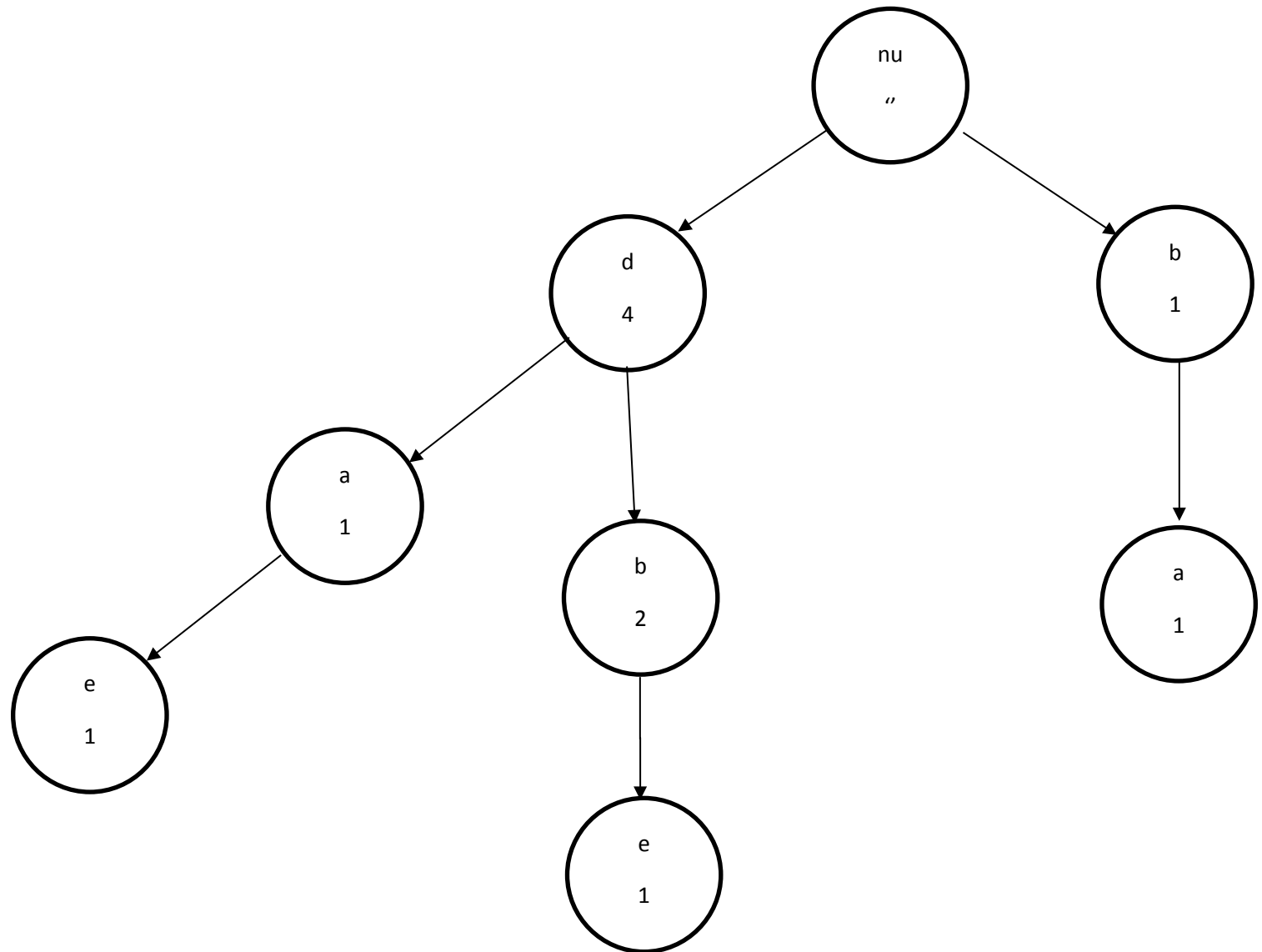
a – 2

e – 1

Frequent Item-Sets

(d, c, 4)

(b, c, 3)



Item: d

Suffix Pattern: d – 9

Prefix Paths

None, node 'd' below node 'null'

Correct Order

none

Frequent Item-Sets

None

Item: e

Suffix Pattern: e – 6

Prefix Paths

(d, b, e, 4) => (d, b, 4)

(d, e, 2)

Correct Order

d – 6

b – 4

Frequent Item-Sets

(d, e, 6)

(d, b, e, 4)

(b, e, 4)

