

NAMA : I'ROFUL BARIYAH

NIM : 17.51.0004

MATKUL : DATA MINING

TUGAS TGL : 18 JUNI 2020

1. Buatlah data set dengan ketentuan sebagai berikut

TABEL DATA SET

No	Day	Discount	Free Delivery	Purchase
1	Weekday	Yes	Yes	Yes
2	Weekday	Yes	Yes	Yes
3	Weekday	No	No	No
4	Holiday	Yes	Yes	Yes
5	Weekday	Yes	Yes	Yes
6	Holiday	No	No	No
7	Weekend	Yes	No	Yes
8	Weekday	Yes	Yes	Yes
9	Weekend	Yes	Yes	Yes
10	Holiday	Yes	Yes	Yes
11	Holiday	No	Yes	Yes
12	Holiday	No	No	No
13	Weekend	Yes	Yes	Yes
14	Holiday	Yes	Yes	Yes
15	Weekday	Yes	Yes	No
16	Weekday	Yes	Yes	Yes
17	Weekday	Yes	No	Yes
18	Weekend	Yes	No	Yes
19	Weekday	Yes	Yes	Yes
20	Weekday	Yes	Yes	Yes
21	Weekday	Yes	Yes	Yes
22	Weekend	Yes	Yes	Yes
23	Weekday	Yes	Yes	Yes
24	Holiday	Yes	Yes	Yes
25	Holiday	Yes	Yes	Yes
26	Holiday	Yes	Yes	Yes
27	Weekend	No	Yes	Yes
28	Weekend	No	Yes	Yes
29	Weekend	Yes	Yes	Yes

30	Holiday	Yes	Yes	Yes
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FREQUENCY TABEL

Frequency Table		Buy		
		yes	no	
Discount	yes	19	1	20
	no	5	5	10
		24	6	30

Frequency Table		Buy		
		yes	no	
Free Delivery	yes	21	2	23
	no	3	4	7
		24	6	30

Frequency Table		Buy		
		yes	no	
Day	Weekday	9	2	11
	weekend	7	1	8
	Holiday	8	3	11
		24	6	30

LIKELIHOOD TABLE

likelihood Table		Buy		
		yes	no	
Discount	yes	19/24	1/6	20/30
	no	5/24	5/6	10/30
		24/30	6/30	

Likelihood Table		Buy		
		yes	no	
Free Delivery	yes	21/24	2/6	23/30
	no	3/24	4/6	7/30
		24/30	6/30	

Likelihood Table		Buy		
		yes	no	
Day	Weekday	9/24	2/6	11/30
	weekend	7/24	1/6	8/30
	Holiday	8/24	3/6	11/30
		24/30	6/30	

TABEL LIKELIHOOD SETELAH PERHITUNGAN

Likelihood Table		Buy		
		Yes	No	
Discount	Yes	0,792	0,167	0,667
	No	0,208	0,833	0,333
		0,800	0,200	

Likelihood Table		Buy		
		Yes	No	
Free Delivery	Yes	0,875	0,333	0,767
	No	0,125	0,667	0,233
		0,800	0,200	

Likelihood Table		Buy		
		Yes	No	
Day	Weekday	0,375	0,333	0,367
	Weekend	0,292	0,167	0,267
	Holiday	0,333	0,500	0,367
		0,800	0,200	

2. Hitunglah probabilitas dari :

a) $P(\text{Buy} \text{day} = \text{weekday}, \text{FD} = \text{yes}, \text{Discount} = \text{yes})$
$= \frac{P(\text{day} = \text{weekday} \text{no}) \times P(\text{fd} = \text{yes} \text{no}) \times P(\text{discount} = \text{yes} \text{no}) \times P(\text{Buy})}{P(\text{day} = \text{weekday}) \times P(\text{fd} = \text{yes}) \times P(\text{discount} = \text{yes})}$
$= \frac{((9/24) \times (21/24) \times (19/24) \times (24/30))}{((11/30) \times (23/30) \times (20/30))}$
$= 1,108881$
b) $P(\text{Buy} \text{day} = \text{weekday}, \text{FD} = \text{no}, \text{Discount} = \text{no})$
$= \frac{P(\text{day} = \text{weekday} \text{no}) \times P(\text{fd} = \text{no} \text{yes}) \times P(\text{discount} = \text{no} \text{yes}) \times P(\text{Buy})}{P(\text{day} = \text{weekday}) \times P(\text{fd} = \text{no}) \times P(\text{discount} = \text{no})}$
$= \frac{((9/24) \times (3/24) \times (5/24) \times (24/30))}{((11/30) \times (7/30) \times (10/30))}$
$= 0,273945$
c) $P(\text{not buy} \text{day} = \text{weekday}, \text{free delivery} = \text{yes}, \text{discount} = \text{yes})$
$= \frac{P(\text{day} = \text{weekday} \text{no}) \times P(\text{fd} = \text{yes} \text{no}) \times P(\text{discount} = \text{yes} \text{no}) \times P(\text{Not Buy})}{P(\text{day} = \text{weekday}) \times P(\text{fd} = \text{yes}) \times P(\text{discount} = \text{yes})}$
$= \frac{((2/6) \times (2/6) \times (1/6) \times (6/30))}{((11/30) \times (23/30) \times (20/30))}$
$= 0,019763$
d) $P(\text{not buy} \text{day} = \text{weekday}, \text{fd} = \text{no}, \text{discount} = \text{no})$
$= \frac{P(\text{day} = \text{weekday} \text{no}) \times P(\text{fd} = \text{no} \text{yes}) \times P(\text{discount} = \text{no} \text{yes}) \times P(\text{Not Buy})}{P(\text{day} = \text{weekday}) \times P(\text{fd} = \text{no}) \times P(\text{discount} = \text{no})}$
$= \frac{((2/6) \times (4/6) \times (5/6) \times (6/30))}{((11/30) \times (7/30) \times (10/30))}$
$= 1,298701$
e) $P(\text{buy} \text{day} = \text{weekend}, \text{fd} = \text{yes}, \text{discount} = \text{yes})$
$= \frac{P(\text{day} = \text{weekend} \text{no}) \times P(\text{fd} = \text{yes} \text{no}) \times P(\text{discount} = \text{yes} \text{no}) \times P(\text{Buy})}{P(\text{day} = \text{weekend}) \times P(\text{fd} = \text{yes}) \times P(\text{discount} = \text{yes})}$
$= \frac{((7/24) \times (21/24) \times (19/24) \times (24/30))}{((8/30) \times (23/30) \times (20/30))}$
$= 1,185887$
f) $P(\text{buy} \text{day} = \text{weekend}, \text{fd} = \text{no}, \text{discount} = \text{no})$
$= \frac{P(\text{day} = \text{weekend} \text{no}) \times P(\text{fd} = \text{no} \text{yes}) \times P(\text{discount} = \text{no} \text{yes}) \times P(\text{Buy})}{P(\text{day} = \text{weekend}) \times P(\text{fd} = \text{no}) \times P(\text{discount} = \text{no})}$
$= \frac{((7/24) \times (3/24) \times (5/24) \times (24/30))}{((8/30) \times (7/30) \times (10/30))}$

= 0,292969
g) P(not buy day= weekend, fd = yes, discount,= yes)
$P(day = weekend no) \times P(fd = yes no) \times P(discount = yes no) \times P(Not \text{ buy} day = weekend, fd = yes, discount = yes)$
$= \frac{P(day = weekend) \times P(fd = yes) \times P(discount = yes)}{((1/6) \times (2/6) \times (1/6) \times (6/30))}$
$= \frac{((8/30) \times (23/30) \times (20/30))}{((8/30) \times (23/30) \times (20/30))}$
= 0,013587
h) p(not buy day= weekend, fd= no, discount = no)
$P(day = weekend no) \times P(fd = no yes) \times P(discount = no yes) \times P(Not \text{ buy} day = weekend, fd = no, discount = no)$
$= \frac{P(day = weekend) \times P(fd = no) \times P(discount = no)}{((1/6) \times (4/6) \times (5/6) \times (6/30))}$
$= \frac{((8/30) \times (7/30) \times (10/30))}{((8/30) \times (7/30) \times (10/30))}$
= 0,892857