In [1]:

```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
```

In [2]:

```
data = pd.read_excel('D:/Shooping_Demo.xls')
```

In [3]:

```
data.head()
```

Out[3]:

	Day	Discount	Free Delivery	Purchase	Unnamed: 4	Unnamed: 5	Unnamed: 6
0	Weekday	Yes	Yes	Yes	YesYes	WeekdayYes	YesYes
1	Weekday	Yes	Yes	Yes	YesYes	WeekdayYes	YesYes
2	Weekend	No	No	No	NoNo	WeekendNo	NoNo
3	Holiday	Yes	Yes	Yes	YesYes	HolidayYes	YesYes
4	Weekday	Yes	Yes	Yes	YesYes	WeekdayYes	YesYes

In [4]:

```
data.shape
```

Out[4]:

```
(30, 7)
```

In [6]:

```
data['Purchase'].value_counts()
```

Out[6]:

```
Yes    24
No      6
Name: Purchase, dtype: int64
```

In [7]:

```
PYes = 24/30
PNo = 6/30
```

In [8]:

```
print(PYes)
```

```
0.8
```

In [9]:

```
print(PNo)
```

```
0.2
```

In [11]:

```
pd.crosstab(data['Day'], data['Purchase'])
```

Out[11]:

Purchase	No	Yes

Purchase Day	No	Yes
Holiday	3	8
Weekday	2	9
Weekend	1	7

In [12]:

```
PHolidayNo = 3/6
PWeekdayNo = 2/6
PWeedendNo = 1/6

PHolidayYes = 8/24
PWeekdayYes = 9/24
PWeedendYes = 7/24

PHoliday = 11/30
PWeekday = 11/30
PWeedend = 8/30

print(PWeekdayYes)
```

```
0.375
```

In [15]:

```
PNoWeekday = (PWeekdayNo*PNo)/PWeekday
print(PNoWeekday)
```

```
0.18181818181818182
```

In [16]:

```
PYesWeekday = (PWeekdayYes*PYes)/PWeekday
print(PYesWeekday)
```

```
0.8181818181818183
```

In [17]:

```
print(PNoWeekday)
print(PYesWeekday)
```

```
0.18181818181818182
0.8181818181818183
```

In [18]:

```
pd.crosstab(data['Discount'], data['Purchase'])
```

Out[18]:

Purchase	No	Yes
Discount		
No	5	5
Yes	1	19

In [19]:

```
PNoDiscountNo = 5/6
PYesDiscountNo = 1/6

PNoDiscountYes = 5/24
PYesDiscountYes = 19/24

PNoDiscount = 10/30
PYesDiscount = 20/30
```

In [20]:

```
pd.crosstab(data['Free Delivery'], data['Purchase'])
```

Out[20]:

Purchase	No	Yes
Free Delivery		
No	4	3
Yes	2	21

In [21]:

```
PNoDeliveryNo = 4/6
PYesDeliveryNo = 2/6

PNoDeliveryYes = 3/24
PYesDeliveryYes = 21/24

PNoDelivery = 7/30
PYesDelivery = 23/30
```

In [24]:

```
PNoBuy1 = ((PHolidayNo*PYesDiscountNo*PYesDeliveryNo)*PNo)/(PHoliday*PYesDiscount*PYesDe
livery)
print(PNoBuy1)
```

```
0.029644268774703563
```

In [25]:

```
PBuy2 = ((PHolidayYes*PYesDiscountYes*PYesDeliveryYes)*PYes)/(PHoliday*PYesDiscount*PYes
Delivery)
print(PBuy2)
```

```
0.9856719367588933
```

In [26]:

```
PSum = PNoBuy1+PBuy2
print(PSum)
```

```
1.015316205533597
```

In [27]:

```
PBuy= (PBuy2/PSum)*100
print(PBuy)
```

```
97.08029197080292
```

In [28]:

```
PNoBuy = (PNoBuy1*PSum)*100
print(PNoBuy)
```

```
3.009830648815011
```

In [ ]:

```

```