In [4]:
```
#Tugas No1
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
%matplotlib inline
```

In [5]:
```
data = pd.read_excel('D:\dataset\dataset1.xlsx')
data.tail()
```

Out[5]:

	Age	Income	Student	Credit_rating	Class
46	> 40	Low	Yes	Fair	Yes
47	<=30	Low	Yes	Fair	Yes
48	31..40	Medium	No	Fair	No
49	31..40	High	Yes	Excellent	Yes
50	> 40	Medium	No	Excellent	No

In [6]:
```
data.shape
```

Out[6]:
```
(51, 5)
```

In [7]:
```
data['Class'].value_counts()
```

Out[7]:
```
Yes    29
No     22
Name: Class, dtype: int64
```

In [8]:
```
PYes = 29/51
PNo = 22/51

print (PYes)
print (PNo)
```

```
0.5686274509803921
0.43137254901960786
```

In [9]:
```
pd.crosstab(data['Age'],data['Class'])
```

Out[9]:

Class	No	Yes
Age		
31..40	4	10

In [9]:
```
pd.crosstab(data['Age'],data['Class'])
```

Out[9]:

Class	No	Yes
Age		
31..40	4	10
<=30	10	10
> 40	8	9

In [10]:
```
P30anNo = 4/14
PDiBawah30No = 10/20
PDiatas40No = 8/17

P30anYes = 10/14
PDiBawah30Yes = 10/20
PDiAtas40Yes = 9/17

P30an = 14/51
PDiBawah30 = 20/51
PDiAtas40 = 17/51
```

In [11]:
```
pd.crosstab(data['Income'],data['Class'])
```

Out[11]:

Class	No	Yes
Income		
High	6	5
Low	11	10
Medium	5	14

In [12]:
```
PHighNo = 6/11
PLowNo = 11/21
PMediumNo = 5/19

PHighYes = 5/11
PLowYes = 10/21
PMediumYes = 14/19

PHigh = 11/51
PLow = 21/51
PMedium = 19/51
```

In [13]:
```
pd.crosstab(data['Student'],data['Class'])
```

Out[13]:

Student	Class	No	Yes
No		10	14
Yes		12	15

In [14]:
```
PNotStudentNo = 10/24
PStudentNo = 12/27

PNotStudentYes = 14/24
PStudentYes = 15/27

PNotStudent = 24/51
PStudent = 27/51
```

In [15]:
```
pd.crosstab(data['Credit_rating'],data['Class'])
```

Out[15]:

Credit_rating	Class	No	Yes
Excellent		8	12
Fair		14	17

In [16]:
```
PExcelentNo = 8/20
PFairNo = 14/31

PExcelentYes = 12/20
PFairYes = 17/31

PExcelent = 20/51
PFair = 31/51
```

In [17]:
```
#membuktika pembeli terbanyak bukan dari kalangan student
PYesNotStudent = (PNotStudentYes*PYes)/PNotStudent
PYesStudent = (PStudentYes*PYes)/PStudent

print(PYesNotStudent)
print(PStudent)
```

```
0.704861111111111
0.5294117647058824
```

In [18]:
```
#degan lebih besarnya nilai probabilitas dari not Student yang melaukakan
#pembelian disimpulkan bahwa mayorits pembli adalah notStudent
```