### Task 1:-

```
In [1]:
import pandas as pd
import numpy as np
In [2]:
import warnings
warnings.filterwarnings('ignore')
In [3]:
pd.Series()
Out[3]:
Series([], dtype: float64)
In [11]:
ld= pd.read_csv(r'E:\Aishwarya official\Aishwarya Data Scince\Course 4\DS1_C4_S3_Loan_Data_Practice.csv.csv')
1d
 4
Out[11]:
       Loan ID
               Gender Married Dependents
                                           Education Self_Employed ApplicantIncome CoapplicantIncome LoanAmount Loan_Amount_Term Credit_H
   0 LP001002
                            No
                                                                 No
                                                                                5849
                                                                                                   0.0
                                                                                                                                   360
                  Male
                                             Graduate
                                                                                                                146
   1 LP001003
                  Male
                                             Graduate
                                                                 No
                                                                                4583
                                                                                                 1508.0
                                                                                                                128
                                                                                                                                   360
                            Yes
   2 LP001005
                  Male
                            Yes
                                         0
                                             Graduate
                                                                 Yes
                                                                                3000
                                                                                                    0.0
                                                                                                                 66
                                                                                                                                   360
                                                  Not
   3 LP001006
                  Male
                            Yes
                                         0
                                                                 No
                                                                                2583
                                                                                                 2358.0
                                                                                                                120
                                                                                                                                   360
                                             Graduate
   4 LP001008
                  Male
                            No
                                         0
                                             Graduate
                                                                 No
                                                                                6000
                                                                                                   0.0
                                                                                                                141
                                                                                                                                   360
 609
      LP002978
                Female
                            No
                                         0
                                             Graduate
                                                                 No
                                                                                2900
                                                                                                   0.0
                                                                                                                 71
                                                                                                                                   360
     LP002979
                                        3+
                                                                                4106
                                                                                                    0.0
                                                                                                                 40
                                                                                                                                   180
 610
                  Male
                            Yes
                                             Graduate
                                                                 No
 611 LP002983
                  Male
                            Yes
                                             Graduate
                                                                 No
                                                                                8072
                                                                                                  240.0
                                                                                                                253
                                                                                                                                   360
 612 LP002984
                  Male
                            Yes
                                         2
                                             Graduate
                                                                 No
                                                                                7583
                                                                                                    0.0
                                                                                                                187
                                                                                                                                   360
 613 LP002990 Female
                                         0
                                                                                4583
                                                                                                   0.0
                                                                                                                                   360
                            No
                                             Graduate
                                                                 Yes
                                                                                                                133
614 rows × 13 columns
4
In [13]:
# df[(df.Sales<36000) & (df.Month == 'Jan')]
ld[(ld.Gender =='Male') & (ld.Education=='Graduate') & (ld.Loan_Status == 'Y')]
Out[13]:
                                                    CoapplicantIncome LoanAmount Loan_Amount_Term Credit_History
                                                                                                                     Property_Area Loan_Status
Dependents Education Self Employed ApplicantIncome
         0
            Graduate
                                 No
                                               5849
                                                                   0.0
                                                                               146
                                                                                                  360
                                                                                                                             Urban
         0
                                               3000
                                                                   0.0
                                                                                                  360
                                                                                                                                             Υ
            Graduate
                                Yes
                                                                                66
                                                                                                                             Urban
        0
            Graduate
                                No
                                               6000
                                                                   0.0
                                                                               141
                                                                                                  360
                                                                                                                  1
                                                                                                                             Urban
                                                                                                                                             Υ
         2
                                Yes
                                               5417
                                                                4196.0
                                                                               267
                                                                                                  360
                                                                                                                             Urban
            Graduate
         2
                                 No
                                               4006
                                                                1526.0
                                                                               168
                                                                                                  360
                                                                                                                             Urban
                                                                                                                                             Υ
         1
                                 No
                                               3400
                                                                2500.0
                                                                               173
                                                                                                  360
                                                                                                                  1
                                                                                                                         Semiurban
            Graduate
         0
            Graduate
                                 No
                                               3232
                                                                1950.0
                                                                               108
                                                                                                  360
                                                                                                                             Rural
                                                                                                                                             Υ
        3+
            Graduate
                                 No
                                               4106
                                                                   0.0
                                                                                40
                                                                                                  180
                                                                                                                             Rural
            Graduate
                                 No
                                               8072
                                                                 240.0
                                                                               253
                                                                                                  360
                                                                                                                             Urban
         2
            Graduate
                                 No
                                               7583
                                                                   0.0
                                                                               187
                                                                                                  360
                                                                                                                             Urban
```

### Task 2:-

```
In [14]:
ld[(ld.Gender=='Female') & (ld.Self_Employed=='Yes') & (ld.ApplicantIncome >4000)]
Out[14]:
       Loan_ID Gender Married Dependents Education Self_Employed ApplicantIncome CoapplicantIncome LoanAmount Loan_Amount_Term Credit_H
 54 LP001186
               Female
                                            Graduate
                                                                              11500
                                                                                                 0.0
                                                                                                              286
                                                                                                                                 360
                           Yes
                                                                Yes
 113 LP001392
               Female
                           No
                                            Graduate
                                                                              7451
                                                                                                 0.0
                                                                                                              146
                                                                                                                                 360
 353 LP002142 Female
                                                                              5500
                                                                                                              105
                                                                                                                                 360
                           Yes
                                        0
                                            Graduate
                                                                                                 0.0
                                                               Yes
 370 LP002194 Female
                                                                             15759
                                                                                                                                 360
                           No
                                            Graduate
                                                               Yes
                                                                                                  0.0
                                                                                                               55
 404 LP002301 Female
                           No
                                        0
                                            Graduate
                                                               Yes
                                                                              7441
                                                                                                  0.0
                                                                                                              194
                                                                                                                                 360
 430 LP002377 Female
                                            Graduate
                                                                              8624
                                                                                                 0.0
                                                                                                              150
                                                                                                                                 360
                           No
                                                               Yes
 439 LP002407 Female
                                                                                                                                 360
                                                                              7142
                                                                                                 0.0
                                                                                                              138
                           Yes
                                                               Yes
                                            Graduate
                                                 Not
 463 LP002489 Female
                                                                                                 0.0
                                                                              5191
                                                                                                              132
                                                                                                                                 360
                           No
                                                               Yes
                                            Graduate
 493 LP002582 Female
                           No
                                                               Yes
                                                                             17263
                                                                                                 0.0
                                                                                                              225
                                                                                                                                 360
                                            Graduate
                                                 Not
 534 LP002731 Female
                           No
                                                               Yes
                                                                             18165
                                                                                                 0.0
                                                                                                              125
                                                                                                                                 360
                                            Graduate
 561 LP002813 Female
                                            Graduate
                           Yes
                                                               Yes
                                                                             19484
                                                                                                  0.0
                                                                                                              600
                                                                                                                                 360
 613 LP002990 Female
                                            Graduate
                                                                              4583
                                                                                                 0.0
                                                                                                              133
                                                                                                                                 360
                                                               Yes
                           No
```

### **Task 3:-**

```
In [15]:

1d
```

Out[15]:

Loan_ID	Gender	Married	Dependents	Education	Self_Employed	ApplicantIncome	CoapplicantIncome	LoanAmount	Loan_Amount_Term	Credit_History
LP001002	Male	No	0	Graduate	No	5849	0.0	146	360	1
LP001003	Male	Yes	1	Graduate	No	4583	1508.0	128	360	1
LP001005	Male	Yes	0	Graduate	Yes	3000	0.0	66	360	1
LP001006	Male	Yes	0	Not Graduate	No	2583	2358.0	120	360	1
LP001008	Male	No	0	Graduate	No	6000	0.0	141	360	1
LP002978	Female	No	0	Graduate	No	2900	0.0	71	360	1
LP002979	Male	Yes	3+	Graduate	No	4106	0.0	40	180	1
LP002983	Male	Yes	1	Graduate	No	8072	240.0	253	360	1
LP002984	Male	Yes	2	Graduate	No	7583	0.0	187	360	1
LP002990	Female	No	0	Graduate	Yes	4583	0.0	133	360	0
ows × 13 c	olumns									
4										•

```
In [26]:
```

```
x = ld[(ld.Dependents == '3+') & (ld.Property_Area=='Rural') & (ld.Loan_Status == 'Y')]
x
print("The no of applicant", x['Gender'].value_counts())
```

The no of applicant Male 12
Female 1
Name: Gender, dtype: int64

## Task 4:-

```
In [28]:

k = ld[(ld.LoanAmount >290) & (ld.Loan_Status=='Y')]
k
avg = np.mean(ld['ApplicantIncome'])
avg

Out[28]:
5403.459283387622
```

# Task 5 :-

```
In [30]:
```

```
m = ld[(ld.Married=='No')& (ld.Self_Employed =='Yes')]
```

Out[30]:

1 Graduate Yes 4692 0.0 106 360 1 Rund 0 Graduate Yes 6762 0.0 146 360 1 Urban 1 Graduate Yes 6762 0.0 146 360 1 Urban 1 Graduate Yes 7333 0.0 120 360 1 Semiltan 1 Graduate Yes 7333 0.0 140 360 1 Semiltan 1 Graduate Yes 7333 0.0 148 360 1 Semiltan 1 Semiltan 1 Graduate Yes 6665 0.0 148 360 1 Semiltan 1 Graduate Yes 6665 0.0 1475 160 1 Semiltan 1 Graduate Yes 6665 0.0 1475 160 1 Semiltan 1 Graduate Yes 6665 0.0 1475 160 1 Semiltan 1 Graduate Yes 6665 0.0 1475 160 1 Semiltan 1 Graduate Yes 6665 0.0 1475 160 1 Semiltan 1 Graduate Yes 6665 0.0 1475 160 1 Semiltan 1 Graduate Yes 6665 0.0 1475 160 1 Semiltan 1 Graduate Yes 6665 0.0 1475 160 1 Semiltan 1 Graduate Yes 6665 0.0 1475 160 1 Semiltan 1 Graduate Yes 6665 0.0 1475 160 160 1 Semiltan 1 Graduate Yes 6665 0.0 1475 160 160 1 Urban 1 Graduate Yes 6665 0.0 1475 160 160 1 Urban 1 Graduate Yes 6665 0.0 1475 160 1 Urban 1 Graduate Yes 6665 0.0 150 1 100 1 Urban 1 Graduate Yes 1665 0.0 150 1 100 1 Urban 1 Graduate Yes 1665 0.0 150 1 100 1 Urban 1 Graduate Yes 1665 0.0 1 192 360 1 Terral Graduate Yes 1666 0.0 128 360 1 Semiltan 1 Semiltan 1 Graduate Yes 1666 0.0 128 360 1 Semiltan 1 Semiltan 1 Graduate Yes 1666 0.0 128 360 1 Semiltan 1 Semiltan 1 Graduate Yes 1666 0.0 128 360 1 Semiltan 1 Semiltan 1 Graduate Yes 1666 0.0 128 360 1 Semiltan 1 Semiltan 1 Graduate Yes 16767 0.0 128 360 1 Semiltan 1 Semiltan 1 Graduate Yes 16767 0.0 126 360 1 Semiltan 1 Semiltan 1 Graduate Yes 1767 0.0 126 360 1 Semiltan 1 Graduate Yes 1767 0.0 126 360 1 Semiltan 1 Semiltan 1 Graduate Yes 1767 0.0 126 360 1 Semiltan 1 Semiltan 1 Graduate Yes 1767 0.0 126 360 1 Semiltan 1 Semiltan 1 Graduate Yes 1767 0.0 126 360 1 Semiltan 1 Semiltan 1 Graduate Yes 1767 0.0 126 360 1 Semiltan 1 Semiltan 1 Graduate Yes 1767 0.0 126 360 1 Semiltan 1 Semiltan 1 Graduate Yes 1767 0.0 126 360 1 Semiltan 1 Semiltan 1 Graduate Yes 1767 0.0 126 360 1 Semiltan 1 Semiltan 1 Graduate Yes 1767 0.0 126 360 1 Semiltan 1 Semiltan 1 Graduate Yes 1767 0.0 126 360 1 Semiltan 1 Semiltan 1 Graduate Yes 1767 0.0 126 360 1 Semi	Dependents	Education	Self_Employed	ApplicantIncome	CoapplicantIncome	LoanAmount	Loan_Amount_Term	Credit_History	Property_Area	Loan_Status
O   Graduate   Vec   6762   O   0   146   Sec   1   Urban   O   O   O   O   O   O   O   O   O	2	Graduate	Yes	3750	2083.0	120	360	1	Semiurban	Y
Mail	1	Graduate	Yes	4692	0.0	106	360	1	Rural	N
Graduate   Ves   7481   0.0   146   380   1   Semistram   0   Graduate   Ves   7481   0.0   146   380   1   Semistram   0   Graduate   Ves   20166   0.0   650   680   1   Urban   0   Graduate   Ves   20166   0.0   650   680   1   Urban   0   Graduate   Ves   2800   2883.0   120   380   1   Semistram   0   Graduate   Ves   2800   2883.0   120   380   1   Urban   0   Graduate   Ves   4040   0.0   280   380   1   Urban   0   Graduate   Ves   4040   0.0   280   380   1   Urban   0   Graduate   Ves   4040   4333.0   122   380   1   Urban   0   Graduate   Ves   6500   4333.0   120   180   1   Urban   0   Graduate   Ves   6500   4333.0   120   180   1   Urban   0   Graduate   Ves   6500   4333.0   120   180   1   Urban   0   Graduate   Ves   6500   4333.0   120   180   1   Urban   0   Graduate   Ves   1520   0.0   122   380   0   Urban   0   Graduate   Ves   1520   0.0   128   380   0   Urban   0   Graduate   Ves   1520   0.0   128   380   0   Urban   0   Graduate   Ves   5166   0.0   128   380   0   Urban   0   Graduate   Ves   5166   0.0   128   380   0   Urban   0   Graduate   Ves   5166   0.0   128   380   0   Urban   0   Graduate   Ves   5166   0.0   128   380   0   Urban   0   Graduate   Ves   6822   0.0   141   380   1   Semilurban   0   Graduate   Ves   6822   0.0   141   380   1   Semilurban   0   Graduate   Ves   15759   0.0   55   380   1   Semilurban   0   Graduate   Ves   7461   0.0   150   380   1   Graduate   Ves   1416   0.0   150   380   1   Graduate   Ves	0	Graduate	Yes	6782	0.0	146	360	1	Urban	N
O Graduate	0		Yes	7333	0.0	120	360	1	Rural	N
0         Graduate         Yes         20166         0.0         650         480         1         Urban           0         Graduate         Yes         6950         0.9         175         180         1         Semurban           0         Graduate         Yes         1000         0.0         83         360         1         Pural           0         Graduate         Yes         6400         0.0         200         380         1         Rural           0         Graduate         Yes         6400         0.0         200         380         1         Rural           0         Graduate         Yes         3483         0.0         120         380         1         Urban           0         Graduate         Yes         2583         2167.0         104         380         1         Rural           0         Graduate         Yes         1568         0.0         122         380         0         Urban           1         Morduate         Yes         1668         0.0         128         380         0         Urban           1         Morduate         Yes         4093         24269.0	1	Graduate	Yes	7451	0.0	146	360	1	Semiurban	Υ
O   Graduate   Yes   6950   0.0   175   130   1   Semiurban	0	Graduate	Yes	5050	0.0	118	360	1	Semiurban	Υ
0         Graduate         Yes         2960         2083.0         120         360         1         Rural           0         Graduate         Yes         11000         0.0         83         360         1         Utrian         1           0         Graduate         Yes         6400         0.0         200         360         1         Record           0         Graduate         Yes         6550         4333.0         120         180         1         Utrian           0         Graduate         Yes         6550         4333.0         120         180         1         Utrian           0         Graduate         Yes         16250         0.0         192         360         0         Utrian           1         Official Security         Yes         1566         0.0         128         360         0         Utrian           1         Modulate         Yes         1566         0.0         128         360         0         Utrian           1         Modulate         Yes         2800         1717.0         99         300         1         Semiurban           0         Graduate         Yes <t< td=""><td>0</td><td>Graduate</td><td>Yes</td><td>20166</td><td>0.0</td><td>650</td><td>480</td><td>1</td><td>Urban</td><td>Υ</td></t<>	0	Graduate	Yes	20166	0.0	650	480	1	Urban	Υ
0 Graduate Yes 11000 0.0 83 360 1 Urban 0 Graduate Yes 6400 0.0 200 300 1 Rural 0 Graduate Yes 3463 0.0 122 350 1 Urban 1 Urb	0	Graduate	Yes	6950	0.0	175	180	1	Semiurban	Υ
0         Graduate         Yes         6400         0.0         200         360         1         Rural           0         Graduate         Yes         3463         0.0         122         380         1         Urban         1           0         Graduate         Yes         6950         4333.0         120         180         1         Urban         1           0         Graduate         Yes         2583         2167.0         104         380         1         Rural           0         Graduate         Yes         16250         0.0         192         380         0         Urban         1           1         Graduate         Yes         5166         0.0         128         360         0         Urban         1           1         Graduate         Yes         4053         2426.0         158         360         0         Urban         1           0         Graduate         Yes         2800         1717.0         99         300         1         Semiurban           0         Graduate         Yes         6822         0.0         141         380         1         Semiurban	0	Graduate	Yes	2980	2083.0	120	360	1	Rural	Υ
O         Graduate         Yes         3463         0.0         122         360         1         Urban           O         Graduate         Yes         6050         4333.0         120         180         1         Urban         1           O         Graduate         Yes         16250         0.0         192         360         0         Urban         1           O         Graduate         Yes         16250         0.0         192         360         0         Urban         1           O         Graduate         Yes         1668         0.0         128         360         1         Semiurban           O         Graduate         Yes         4053         2426.0         158         380         0         Urban         1           O         Graduate         Yes         2600         1717.0         99         300         1         Semiurban         1           O         Graduate         Yes         6822         0.0         141         360         1         Semiurban           O         Graduate         Yes         7167         0.0         128         360         1         Urban <t< td=""><td>0</td><td>Graduate</td><td>Yes</td><td>11000</td><td>0.0</td><td>83</td><td>360</td><td>1</td><td>Urban</td><td>N</td></t<>	0	Graduate	Yes	11000	0.0	83	360	1	Urban	N
0         Graduate         Yes         6050         4333.0         120         180         1         Urban           0         Not Graduate         Yes         2583         2167.0         104         360         1         Rural           0         Graduate         Yes         16250         0.0         192         360         0         Urban           1         Graduate         Yes         5166         0.0         128         360         1         Semiurban           1         Graduate         Yes         4053         2426.0         158         360         0         Urban           1         Graduate         Yes         2600         1717.0         99         300         1         Semiurban           0         Graduate         Yes         2600         1717.0         99         300         1         Semiurban           0         Graduate         Yes         15759         0.0         55         360         1         Semiurban           0         Graduate         Yes         3667         0.0         128         360         1         Urban           1         Graduate         Yes         3867	0	Graduate	Yes	6400	0.0	200	360	1	Rural	Υ
0         Not Graduate         Yes         2583         2167.0         104         380         1         Rural           0         Graduate         Yes         16250         0.0         192         380         0         Urban         1           0         Graduate         Yes         5166         0.0         128         360         1         Semiurban           1         Not         Yes         4053         2426.0         156         360         0         Urban           0         Graduate         Yes         2800         1717.0         99         300         1         Semiurban           0         Graduate         Yes         8822         0.0         141         380         1         Rural           0         Graduate         Yes         18759         0.0         55         380         1         Urban           1         Graduate         Yes         3667         0.0         113         180         1         Urban           1         Graduate         Yes         3867         0.0         62         380         1         Semiurban           1         Graduate         Yes         1824	0	Graduate	Yes	3463	0.0	122	360	1	Urban	Υ
O Graduate Yes 16250 0.0 192 360 0 Urban 1 Caraduate Yes 16250 0.0 192 360 0 Urban 1 Caraduate Yes 1666 0.0 128 360 1 Semilurban 1 Caraduate Yes 2600 1717.0 99 300 1 Semilurban 1 Caraduate Yes 2600 1717.0 99 300 1 Semilurban 1 Caraduate Yes 2600 1717.0 199 300 1 Semilurban 1 Caraduate Yes 2600 1717.0 199 300 1 Semilurban 1 Caraduate Yes 16822 0.0 141 360 1 Rural 1 Caraduate Yes 17579 0.0 55 360 1 Semilurban 1 Caraduate Yes 7167 0.0 128 360 1 Urban 1 Caraduate Yes 7167 0.0 128 360 1 Urban 1 Urban 1 Caraduate Yes 7167 0.0 194 360 1 Urban 1 Urban 1 Caraduate Yes 7441 0.0 194 360 1 Rural 1 Urban 1 Caraduate Yes 3867 0.0 113 180 1 Urban 1 Caraduate Yes 8824 0.0 150 360 1 Semilurban 1 Caraduate Yes 8824 0.0 150 360 1 Semilurban 1 Caraduate Yes 12876 0.0 405 360 1 Semilurban 1 Caraduate Yes 12876 0.0 405 360 1 Semilurban 1 Caraduate Yes 12876 0.0 405 360 1 Semilurban 1 Caraduate Yes 12876 0.0 405 360 1 Semilurban 1 Caraduate Yes 12876 0.0 405 360 1 Semilurban 1 Caraduate Yes 12876 0.0 405 360 1 Semilurban 1 Caraduate Yes 12876 0.0 405 360 1 Semilurban 1 Caraduate Yes 12876 0.0 405 360 1 Semilurban 1 Caraduate Yes 12876 0.0 405 360 1 Semilurban 1 Caraduate Yes 12876 0.0 405 360 1 Semilurban 1 Caraduate Yes 12876 0.0 425 360 1 Semilurban 1 Caraduate Yes 12876 0.0 425 360 1 Semilurban 1 Caraduate Yes 12876 0.0 425 360 1 Semilurban 1 Caraduate Yes 12876 0.0 425 360 1 Semilurban 1 Caraduate Yes 12876 0.0 425 360 1 Semilurban 1 Caraduate Yes 12876 0.0 425 360 1 Semilurban 1 Caraduate Yes 12876 0.0 425 360 1 Semilurban 1 Caraduate Yes 12870 0.0 425 360 1 Semilurban 1 Caraduate Yes 12870 0.0 425 360 1 Semilurban 1 Caraduate Yes 12870 0.0 425 360 1 Semilurban 1 Caraduate Yes 3600 0.0 432 360 1 Semilurban 1 Caraduate Yes 3600 0.0 432 360 1 Semilurban 1 Caraduate Yes 3600 0.0 432 360 1 Semilurban 1 Caraduate Yes 3600 0.0 432 360 1 Semilurban 1 Caraduate Yes 3600 0.0 446 360 1 Caraduate Yes 3600 0.0 4600 0.0 4600 0.0 4600 0.0 4600 0.0 4600 0.0 4600 0.0 4600 0.0 4600 0.0 4600 0.0 4600 0.0 4600 0.0 4600 0.0 4600 0.0 4600 0.0 4600 0	0	Graduate	Yes	6050	4333.0	120	180	1	Urban	N
0         Graduate         Yes         5166         0.0         128         360         1         Semiurban           1         Graduate         Yes         4053         2426.0         158         360         0         Urban         1           0         Graduate         Yes         2600         1717.0         99         300         1         Semiurban         1           0         Graduate         Yes         15759         0.0         55         360         1         Semiurban           1         Graduate         Yes         7167         0.0         128         380         1         Urban           1         Graduate         Yes         3667         0.0         131         180         1         Urban           1         Graduate         Yes         7441         0.0         194         360         1         Rural         1           1         Graduate         Yes         3867         0.0         62         360         1         Semiurban           1         Graduate         Yes         12876         0.0         405         360         1         Semiurban           1         Graduate	0		Yes	2583	2167.0	104	360	1	Rural	Υ
1 Not Graduate Yes 4053 2426.0 158 380 0 Urban 1 0 Graduate Yes 2600 1717.0 99 300 1 Semiurban 1 0 Graduate Yes 6822 0.0 141 360 1 Rural 1 0 Graduate Yes 15759 0.0 55 360 1 Semiurban 1 1 Graduate Yes 7167 0.0 128 360 1 Urban 1 1 Graduate Yes 3667 0.0 113 180 1 Urban 1 1 Graduate Yes 3667 0.0 194 380 1 Rural 1 1 Graduate Yes 3667 0.0 194 380 1 Semiurban 1 1 Graduate Yes 3667 0.0 194 380 1 Semiurban 1 1 Graduate Yes 3667 0.0 194 380 1 Semiurban 1 1 Graduate Yes 3667 0.0 150 360 1 Semiurban 1 1 Graduate Yes 3667 0.0 150 380 1 Semiurban 1 1 Graduate Yes 12676 0.0 405 360 1 Semiurban 1 0 Graduate Yes 12676 0.0 405 360 1 Semiurban 1 1 Graduate Yes 10416 0.0 187 380 0 Urban 1 1 Graduate Yes 10416 0.0 187 380 0 Urban 1 1 Graduate Yes 10416 0.0 187 380 1 Semiurban 1 1 Graduate Yes 10416 0.0 187 380 1 Semiurban 1 1 Graduate Yes 12679 1542.0 190 380 1 Semiurban 1 1 Graduate Yes 2600 0.0 84 380 1 Semiurban 1 1 Graduate Yes 5191 0.0 132 380 1 Semiurban 1 1 Graduate Yes 2500 0.0 93 380 1 Semiurban 1 1 Graduate Yes 2500 0.0 93 380 1 Semiurban 1 1 Graduate Yes 2500 0.0 93 380 1 Semiurban 1 1 Graduate Yes 3652 0.0 95 380 1 Semiurban 1 1 Graduate Yes 3652 0.0 95 380 1 Semiurban 1 1 Graduate Yes 3652 0.0 95 380 1 Semiurban 1 1 Graduate Yes 3652 0.0 95 380 1 Semiurban 1 1 Graduate Yes 3652 0.0 95 380 1 Semiurban 1 1 Graduate Yes 3652 0.0 95 380 1 Semiurban 1 1 Graduate Yes 3652 0.0 95 380 1 Semiurban 1 1 Graduate Yes 3652 0.0 95 380 1 Semiurban 1 1 Graduate Yes 3652 0.0 95 380 1 Semiurban 1 1 Graduate Yes 3652 0.0 95 380 1 Semiurban 1 1 Graduate Yes 3652 0.0 95 380 1 Semiurban 1 1 Graduate Yes 3657 0.0 292 380 1 Semiurban 1 1 Graduate Yes 3657 0.0 292 380 1 Semiurban 1 1 Graduate Yes 3657 0.0 292 380 1 Semiurban 1 1 Graduate Yes 416 41667.0 350 180 0 Urban 1	0	Graduate	Yes	16250	0.0	192	360	0	Urban	N
Graduate Yes 2600 1717.0 99 300 1 Semiurban   1	0	Graduate	Yes	5166	0.0	128	360	1	Semiurban	Υ
0         Graduate         Yes         6822         0.0         141         360         1         Rural           0         Graduate         Yes         15759         0.0         55         380         1         Semiurban           0         Graduate         Yes         7167         0.0         128         360         1         Urban           1         Graduate         Yes         3667         0.0         113         180         1         Urban           1         Graduate         Yes         3667         0.0         194         360         1         Rural         1           1         Graduate         Yes         3867         0.0         62         360         1         Semiurban         1           1         Graduate         Yes         8624         0.0         150         360         1         Semiurban           0         Graduate         Yes         10416         0.0         187         360         0         Urban         1           1         Graduate         Yes         2769         1542.0         190         360         1         Semiurban           0         Graduate	1		Yes	4053	2426.0	158	360	0	Urban	N
0         Graduate         Yes         15759         0.0         55         360         1         Semiurban           0         Graduate         Yes         7167         0.0         128         360         1         Urban           1         Graduate         Yes         3667         0.0         113         180         1         Urban           0         Graduate         Yes         7441         0.0         194         360         1         Rural         1           1         Graduate         Yes         3867         0.0         62         360         1         Semiurban         1           1         Graduate         Yes         8624         0.0         150         360         1         Semiurban           0         Graduate         Yes         12876         0.0         405         360         1         Semiurban           1         Oraduate         Yes         10416         0.0         187         360         0         Urban         1           1         Oraduate         Yes         2769         1542.0         190         360         1         Semiurban         1           1	0	Graduate	Yes	2600	1717.0	99	300	1	Semiurban	N
0         Graduate         Yes         7167         0.0         128         360         1         Urban           1         Graduate         Yes         3667         0.0         113         180         1         Urban           0         Graduate         Yes         7441         0.0         194         360         1         Rural         1           1         Graduate         Yes         3867         0.0         62         360         1         Semiurban         1           1         Graduate         Yes         8624         0.0         150         360         1         Semiurban           0         Graduate         Yes         12876         0.0         405         360         1         Semiurban           1         Graduate         Yes         10416         0.0         187         360         0         Urban         1           1         Graduate         Yes         2769         1542.0         190         360         1         Semiurban           1         Graduate         Yes         7085         0.0         84         360         1         Semiurban           1         Graduate	0	Graduate	Yes	6822	0.0	141	360	1	Rural	Υ
1 Graduate Yes 3667 0.0 1113 180 1 Urban 0 Graduate Yes 7441 0.0 194 360 1 Rural 1 Not Scraduate Yes 3867 0.0 62 360 1 Semiurban 1 Graduate Yes 8624 0.0 150 360 1 Semiurban 0 Graduate Yes 12876 0.0 405 360 1 Semiurban 0 Graduate Yes 12876 0.0 405 360 1 Semiurban 1 Graduate Yes 10416 0.0 187 360 0 Urban 1 Graduate Yes 2769 1542.0 190 360 1 Semiurban 1 Graduate Yes 7085 0.0 84 360 1 Semiurban 1 Graduate Yes 5191 0.0 132 360 1 Semiurban 0 Graduate Yes 5591 0.0 93 360 1 Semiurban 0 Graduate Yes 2500 0.0 93 360 1 Urban 0 Graduate Yes 2500 1.0 93 360 1 Urban 0 Graduate Yes 2500 1.0 93 360 1 Urban 0 Graduate Yes 17263 0.0 225 360 1 Semiurban 0 Graduate Yes 18165 0.0 125 360 1 Urban 0 Graduate Yes 3652 0.0 95 360 1 Rural 1 Graduate Yes 3652 0.0 95 360 1 Semiurban 0 Graduate Yes 3652 0.0 95 360 1 Semiurban 0 Graduate Yes 3652 0.0 95 360 1 Semiurban 0 Graduate Yes 3652 0.0 95 360 1 Semiurban 0 Graduate Yes 3652 0.0 95 360 1 Semiurban 0 Graduate Yes 3652 0.0 95 360 1 Semiurban 0 Graduate Yes 3652 0.0 95 360 1 Semiurban 0 Graduate Yes 3652 0.0 95 360 1 Semiurban 0 Graduate Yes 3652 0.0 95 360 1 Semiurban 0 Graduate Yes 3652 0.0 95 360 1 Semiurban 0 Graduate Yes 3652 0.0 95 360 1 Semiurban 0 Graduate Yes 3182 2917.0 161 360 1 Urban 3+ Graduate Yes 3182 2917.0 161 360 1 Urban 3+ Graduate Yes 3458 0.0 133 360 0 Semiurban	0	Graduate	Yes	15759	0.0	55	360	1	Semiurban	Υ
0         Graduate         Yes         7441         0.0         194         360         1         Rural         1           1         Not Graduate         Yes         3867         0.0         62         360         1         Semiurban         1           1         Graduate         Yes         8624         0.0         150         360         1         Semiurban           0         Graduate         Yes         12876         0.0         405         360         1         Semiurban           0         Graduate         Yes         10416         0.0         187         360         0         Urban         1           1         Oraduate         Yes         2769         1542.0         190         360         1         Semiurban         1           1         Graduate         Yes         7085         0.0         84         360         1         Semiurban         1           1         Graduate         Yes         5191         0.0         132         360         1         Semiurban           0         Graduate         Yes         2500         0.0         93         360         1         Urban	0	Graduate	Yes	7167	0.0	128	360	1	Urban	Υ
1         Not Graduate         Yes         3867         0.0         62         360         1         Semiurban           1         Graduate         Yes         8624         0.0         150         360         1         Semiurban           0         Graduate         Yes         12876         0.0         405         360         1         Semiurban           0         Graduate         Yes         10416         0.0         187         360         0         Urban           1         Graduate         Yes         2769         1542.0         190         360         1         Semiurban           0         Graduate         Yes         7085         0.0         84         360         1         Semiurban           1         Graduate         Yes         5191         0.0         132         360         1         Semiurban           0         Graduate         Yes         2500         0.0         93         360         1         Urban           0         Graduate         Yes         17263         0.0         125         360         1         Urban           0         Graduate         Yes         18165	1	Graduate	Yes	3667	0.0	113	180	1	Urban	Υ
Graduate   Yes   8624   0.0   150   360   1   Semiurban   1   Graduate   Yes   12876   0.0   405   360   1   Semiurban   1   Graduate   Yes   12876   0.0   405   360   1   Semiurban   1   Graduate   Yes   10416   0.0   187   360   0   Urban   1   Graduate   Yes   2769   1542.0   190   360   1   Semiurban   1   Graduate   Yes   7085   0.0   84   360   1   Semiurban   1   Graduate   Yes   5191   0.0   132   360   1   Semiurban   1   Graduate   Yes   2500   0.0   93   360   1   Urban   1   Graduate   Yes   2500   0.0   93   360   1   Urban   1   Graduate   Yes   17263   0.0   225   360   1   Semiurban   1   Graduate   Yes   18165   0.0   125   360   1   Urban   1   Graduate   Yes   2550   2042.0   126   360   1   Rural   1   Graduate   Yes   3652   0.0   95   360   1   Semiurban   1   Graduate   Yes   3652   0.0   95   360   1   Semiurban   1   Graduate   Yes   3652   0.0   95   360   1   Semiurban   1   Graduate   Yes   3652   0.0   95   360   1   Semiurban   1   Graduate   Yes   3652   0.0   95   360   1   Semiurban   1   Graduate   Yes   3652   2917.0   161   360   1   Urban   1   3   Graduate   Yes   9357   0.0   292   360   1   Semiurban   3   Graduate   Yes   416   41667.0   350   180   0   Urban   1   3   Graduate   Yes   416   41667.0   350   180   0   Urban   1   3   Graduate   Yes   416   41667.0   350   180   0   Urban   1   3   Graduate   Yes   4483   0.0   133   360   0   Semiurban   3   Graduate   Yes   4483   0.0   133   360   0   Semiurban   3   Graduate   Yes   4483   0.0   133   360   0   Semiurban   3   Graduate   Yes   4483   0.0   133   360   0   Semiurban   3   Graduate   Yes   4483   0.0   133   360   0   Semiurban   3   Graduate   Yes   4483   0.0   133   360   0   Semiurban   3   Graduate   Yes   4483   0.0   133   360   0   Semiurban   3   Graduate   Yes   4483   0.0   133   360   0   Semiurban   3   Graduate   Yes   4483   0.0   133   360   0   Semiurban   3   Graduate   Yes   4483   0.0   133   360   0   Semiurban   3   Graduate   Yes   4483   0.0   133   360   0   Semiurban   3   Gra	0	Graduate	Yes	7441	0.0	194	360	1	Rural	N
0         Graduate         Yes         12876         0.0         405         360         1         Semiurban           0         Graduate         Yes         10416         0.0         187         360         0         Urban         1           1         Not Graduate         Yes         2769         1542.0         190         360         1         Semiurban         1           0         Graduate         Yes         7085         0.0         84         360         1         Semiurban           1         Not Graduate         Yes         5191         0.0         132         360         1         Semiurban           0         Graduate         Yes         2500         0.0         93         360         1         Urban           0         Mot Graduate         Yes         17263         0.0         225         360         1         Semiurban           0         Mot Graduate         Yes         18165         0.0         125         360         1         Urban           1         Graduate         Yes         3652         0.0         95         360         1         Semiurban           0         Graduate	1		Yes	3867	0.0	62	360	1	Semiurban	N
0 Graduate         Yes         10416         0.0         187         360         0         Urban         1           1 Graduate         Yes         2769         1542.0         190         360         1         Semiurban         1           0 Graduate         Yes         7085         0.0         84         360         1         Semiurban           1 Graduate         Yes         5191         0.0         132         360         1         Semiurban           0 Graduate         Yes         2500         0.0         93         360         1         Urban           0 Forduate         Yes         17263         0.0         225         360         1         Semiurban           0 Graduate         Yes         18165         0.0         125         360         1         Urban           0 Graduate         Yes         2550         2042.0         126         360         1         Rural           1 Graduate         Yes         3652         0.0         95         360         1         Semiurban           0 Graduate         Yes         5800         0.0         132         360         1         Semiurban           0 Gra	1	Graduate	Yes	8624	0.0	150	360	1	Semiurban	Υ
1 Graduate Yes 2769 1542.0 190 360 1 Semiurban 1 0 Graduate Yes 7085 0.0 84 360 1 Semiurban 1 1 Not Graduate Yes 5191 0.0 132 360 1 Semiurban 1 0 Graduate Yes 2500 0.0 93 360 1 Urban 1 0 Graduate Yes 17263 0.0 225 360 1 Semiurban 1 0 Graduate Yes 17263 0.0 125 360 1 Semiurban 1 0 Not Graduate Yes 18165 0.0 125 360 1 Graduate 1 0 Not Graduate Yes 2550 2042.0 126 360 1 Rural 1 1 Graduate Yes 3652 0.0 95 360 1 Semiurban 1 0 Graduate Yes 3652 0.0 95 360 1 Semiurban 1 0 Graduate Yes 3652 0.0 95 360 1 Semiurban 1 0 Graduate Yes 3652 0.0 95 360 1 Semiurban 1 0 Graduate Yes 3182 2917.0 161 360 1 Urban 1 3+ Graduate Yes 9357 0.0 292 360 1 Semiurban 1 3+ Graduate Yes 9357 0.0 292 360 1 Semiurban 1 0 Graduate Yes 416 41667.0 350 180 0 Urban 1	0	Graduate	Yes	12876	0.0	405	360	1	Semiurban	Υ
Graduate Yes 7085 0.0 84 360 1 Semiurban  1 Not Graduate Yes 5191 0.0 132 360 1 Semiurban  0 Graduate Yes 2500 0.0 93 360 1 Urban  0 Graduate Yes 17263 0.0 225 360 1 Semiurban  0 Not Graduate Yes 18165 0.0 125 360 1 Urban  0 Not Graduate Yes 2550 2042.0 126 360 1 Rural  1 Graduate Yes 3652 0.0 95 360 1 Semiurban  0 Graduate Yes 3652 0.0 95 360 1 Semiurban  0 Graduate Yes 3652 0.0 95 360 1 Semiurban  0 Graduate Yes 3652 0.0 95 360 1 Semiurban  0 Graduate Yes 3652 0.0 95 360 1 Semiurban  0 Graduate Yes 3652 0.0 95 360 1 Semiurban  0 Graduate Yes 3882 2917.0 161 360 1 Urban  3+ Graduate Yes 9357 0.0 292 360 1 Semiurban  0 Graduate Yes 9357 0.0 292 360 1 Semiurban  0 Graduate Yes 9357 0.0 292 360 1 Semiurban  0 Graduate Yes 416 41667.0 350 180 0 Urban  0 Graduate Yes 446 41667.0 350 180 0 Semiurban	0	Graduate	Yes	10416	0.0	187	360	0	Urban	N
1       Not Graduate       Yes       5191       0.0       132       360       1       Semiurban         0       Graduate       Yes       2500       0.0       93       360       1       Urban         0       Not Graduate       Yes       17263       0.0       225       360       1       Semiurban         0       Not Graduate       Yes       18165       0.0       125       360       1       Urban         0       Not Graduate       Yes       2550       2042.0       126       360       1       Rural         1       Graduate       Yes       3652       0.0       95       360       1       Semiurban         0       Not Graduate       Yes       5800       0.0       132       360       1       Semiurban         0       Graduate       Yes       3182       2917.0       161       360       1       Urban         3+ Graduate       Yes       9357       0.0       292       360       1       Semiurban         3+ Graduate       Yes       416       41667.0       350       180       0       Urban         0       Graduate       Yes	1		Yes	2769	1542.0	190	360	1	Semiurban	N
Graduate Yes 2500 0.0 93 360 1 Urban  O Graduate Yes 2500 0.0 93 360 1 Urban  O Not Graduate Yes 17263 0.0 225 360 1 Semiurban  O Not Graduate Yes 18165 0.0 125 360 1 Urban  O Graduate Yes 2550 2042.0 126 360 1 Rural  O Graduate Yes 3652 0.0 95 360 1 Semiurban  O Not Graduate Yes 3652 0.0 95 360 1 Semiurban  O Graduate Yes 5800 0.0 132 360 1 Semiurban  O Graduate Yes 3182 2917.0 161 360 1 Urban  3+ Graduate Yes 9357 0.0 292 360 1 Semiurban  O Graduate Yes 416 41667.0 350 180 0 Urban  O Graduate Yes 4583 0.0 133 360 0 Semiurban	0	Graduate	Yes	7085	0.0	84	360	1	Semiurban	Υ
0         Not Graduate         Yes         17263         0.0         225         360         1         Semiurban           0         Not Graduate         Yes         18165         0.0         125         360         1         Urban           0         Not Graduate         Yes         2550         2042.0         126         360         1         Rural           1         Graduate         Yes         3652         0.0         95         360         1         Semiurban           0         Not Graduate         Yes         5800         0.0         132         360         1         Semiurban           0         Graduate         Yes         3182         2917.0         161         360         1         Urban           3+         Graduate         Yes         9357         0.0         292         360         1         Semiurban           3+         Graduate         Yes         416         41667.0         350         180         0         Urban           0         Graduate         Yes         4583         0.0         133         360         0         Semiurban	1		Yes	5191	0.0	132	360	1	Semiurban	Υ
O Graduate  Not Yes 18165  O O Not Graduate  O O Not Graduate  O O Not Graduate  O O O Not Graduate  O O O O O O O O O O O O O O O O O O O	0	Graduate	Yes	2500	0.0	93	360	1	Urban	Υ
O Graduate  Not Graduate  Yes 2550 2042.0 126 360 1 Rural  Graduate  Yes 3652 0.0 95 360 1 Semiurban  O Graduate  Yes 5800 0.0 132 360 1 Semiurban  O Graduate  Yes 3182 2917.0 161 360 1 Urban  Graduate  Yes 9357 0.0 292 360 1 Semiurban  Graduate  Yes 416 41667.0 350 180 0 Urban  O Graduate  Yes 4583 0.0 133 360 0 Semiurban	0		Yes	17263	0.0	225	360	1	Semiurban	Υ
Graduate Yes 2550 2042.0 126 360 1 Rural  1 Graduate Yes 3652 0.0 95 360 1 Semiurban  0 Not Graduate Yes 5800 0.0 132 360 1 Semiurban  0 Graduate Yes 3182 2917.0 161 360 1 Urban  3+ Graduate Yes 9357 0.0 292 360 1 Semiurban  3+ Graduate Yes 416 41667.0 350 180 0 Urban 1  0 Graduate Yes 4583 0.0 133 360 0 Semiurban	0		Yes	18165	0.0	125	360	1	Urban	Υ
0         Not Graduate         Yes         5800         0.0         132         360         1         Semiurban           0         Graduate         Yes         3182         2917.0         161         360         1         Urban           3+         Graduate         Yes         9357         0.0         292         360         1         Semiurban           3+         Graduate         Yes         416         41667.0         350         180         0         Urban         1           0         Graduate         Yes         4583         0.0         133         360         0         Semiurban         1	0		Yes	2550	2042.0	126	360	1	Rural	Υ
Graduate  O Graduate  Yes Solv U.0 132 360 1 Semiurban  O Graduate  Yes 3182 2917.0 161 360 1 Urban  3+ Graduate  Yes 9357 0.0 292 360 1 Semiurban  3+ Graduate  Yes 416 41667.0 350 180 0 Urban  O Graduate  Yes 4583 0.0 133 360 0 Semiurban	1	Graduate	Yes	3652	0.0	95	360	1	Semiurban	Υ
3+         Graduate         Yes         9357         0.0         292         360         1         Semiurban           3+         Graduate         Yes         416         41667.0         350         180         0         Urban         I           0         Graduate         Yes         4583         0.0         133         360         0         Semiurban         I	0		Yes	5800	0.0	132	360	1	Semiurban	Υ
3+ Graduate         Yes         416         41667.0         350         180         0         Urban         I           0 Graduate         Yes         4583         0.0         133         360         0         Semiurban         I	0	Graduate	Yes	3182	2917.0	161	360	1	Urban	Υ
0 Graduate Yes 4583 0.0 133 360 0 Semiurban I	3+	Graduate	Yes	9357	0.0	292	360	1	Semiurban	Υ
	3+	Graduate	Yes	416	41667.0	350	180	0	Urban	N
	0	Graduate	Yes	4583	0.0	133	360	0	Semiurban	N
	4									<b>&gt;</b>

```
print("The no of applicant", m['Gender'].value_counts())
```

The no of applicant Male Female 15

Name: Gender, dtype: int64

### Task 6:-

```
In [36]:
1d
Urban = ld[(ld.Property_Area=='Urban')]
Urban
The ApplicantIncome of Urban 2500
                                            4
3750
2400
5417
2333
51763
6400
6033
1907
7583
Name: ApplicantIncome, Length: 178, dtype: int64
In [34]:
ld
Semiurban = ld[(ld.Property_Area=='Semiurban')]
Out[34]:
      Loan_ID Gender Married Dependents Education Self_Employed ApplicantIncome CoapplicantIncome LoanAmount Loan_Amount_Term Credit_H
  7 LP001014
                  Male
                           Yes
                                             Graduate
                                                                 No
                                                                                3036
                                                                                                 2504.0
                                                                                                                158
                                                                                                                                    360
  9 LP001020
                  Male
                           Yes
                                             Graduate
                                                                 No
                                                                               12841
                                                                                                10968.0
                                                                                                                349
                                                                                                                                    360
                                                  Not
 22 LP001047
                  Male
                           Yes
                                         0
                                                                 No
                                                                                2600
                                                                                                 1911.0
                                                                                                                116
                                                                                                                                    360
                                             Graduate
 24 LP001052
                  Male
                           Yes
                                             Graduate
                                                                Yes
                                                                                3717
                                                                                                 2925.0
                                                                                                                151
                                                                                                                                   360
  25 LP001066
                                         0
                                                                                9560
                                                                                                   0.0
                                                                                                                191
                                                                                                                                    360
                  Male
                                             Graduate
                                                                 Yes
                           Yes
592 I P002933
                                        3+
                                                                                9357
                                                                                                   0.0
                                                                                                                292
                                                                                                                                   360
                  Male
                           Nο
                                             Graduate
                                                                 Yes
597
     LP002943
                                                                 No
                                                                                2987
                                                                                                    0.0
                                                                                                                 88
                                                                                                                                    360
                  Male
                            No
                                             Graduate
 604 LP002959
               Female
                           Yes
                                             Graduate
                                                                 No
                                                                               12000
                                                                                                    0.0
                                                                                                                496
                                                                                                                                    360
606 LP002961
                                             Graduate
                                                                 No
                                                                                3400
                                                                                                 2500.0
                                                                                                                173
                                                                                                                                    360
                  Male
                           Yes
613 LP002990 Female
                                                                                                                                    360
                            No
                                             Graduate
                                                                 Yes
                                                                                4583
                                                                                                    0.0
                                                                                                                133
233 rows × 13 columns
In [35]:
Rural = ld[(ld.Property_Area=='Rural')]
Rural
Out[35]:
      Loan ID Gender Married Dependents Education Self Employed Applicantincome Coapplicantincome LoanAmount Loan Amount Term Credit H
  1 LP001003
                  Male
                           Yes
                                             Graduate
                                                                 No
                                                                                4583
                                                                                                 1508.0
                                                                                                                128
                                                                                                                                    360
  13 LP001029
                  Male
                            No
                                         0
                                             Graduate
                                                                 No
                                                                                1853
                                                                                                 2840.0
                                                                                                                114
                                                                                                                                    360
                                                  Not
  18 LP001038
                  Male
                           Yes
                                         0
                                                                 No
                                                                                4887
                                                                                                   0.0
                                                                                                                133
                                                                                                                                    360
                                             Graduate
                                                  Not
 23 LP001050
                  Male
                           Yes
                                         2
                                                                 No
                                                                                3365
                                                                                                 1917.0
                                                                                                                112
                                                                                                                                    360
                                             Graduate
 32 LP001097
                  Male
                            No
                                         1
                                             Graduate
                                                                 Yes
                                                                                4692
                                                                                                   0.0
                                                                                                                106
                                                                                                                                    360
                                         ...
 603
     LP002958
                  Male
                            No
                                         0
                                             Graduate
                                                                 No
                                                                                3676
                                                                                                 4301.0
                                                                                                                172
                                                                                                                                    360
                                                  Not
 607 LP002964
                  Male
                           Yes
                                         2
                                                                 No
                                                                                3987
                                                                                                 1411.0
                                                                                                                157
                                                                                                                                    360
                                             Graduate
 608 LP002974
                  Male
                           Yes
                                         0
                                             Graduate
                                                                 No
                                                                                3232
                                                                                                 1950.0
                                                                                                                108
                                                                                                                                    360
609 LP002978
                                         0
                                                                                2900
                                                                                                   0.0
                                                                                                                                    360
                                             Graduate
                                                                 No
                                                                                                                 71
               Female
                           No
 610 LP002979
                                                                                                    0.0
                                                                                                                 40
                                                                                                                                    180
                  Male
                           Yes
                                             Graduate
                                                                 No
                                                                                4106
179 rows × 13 columns
```

```
In [41]:

print("The ApplicantIncome of Urban : ", Urban.ApplicantIncome.sum())
print("The ApplicantIncome of Semiurban: ", Semiurban.ApplicantIncome.sum())
print("The ApplicantIncome of Rural : ", Rural.ApplicantIncome.sum())

The ApplicantIncome of Urban : 1090446
The ApplicantIncome of Semiurban: 1233097
```

### Task 7:-

The ApplicantIncome of Rural: 994181

```
In [42]:
```

1d

Out[42]:

	Loan_ID	Gender	Married	Dependents	Education	Self_Employed	ApplicantIncome	CoapplicantIncome	LoanAmount	Loan_Amount_Term	Credit_H
0	LP001002	Male	No	0	Graduate	No	5849	0.0	146	360	
1	LP001003	Male	Yes	1	Graduate	No	4583	1508.0	128	360	
2	LP001005	Male	Yes	0	Graduate	Yes	3000	0.0	66	360	
3	LP001006	Male	Yes	0	Not Graduate	No	2583	2358.0	120	360	
4	LP001008	Male	No	0	Graduate	No	6000	0.0	141	360	
609	LP002978	Female	No	0	Graduate	No	2900	0.0	71	360	
610	LP002979	Male	Yes	3+	Graduate	No	4106	0.0	40	180	
611	LP002983	Male	Yes	1	Graduate	No	8072	240.0	253	360	
612	LP002984	Male	Yes	2	Graduate	No	7583	0.0	187	360	
613	LP002990	Female	No	0	Graduate	Yes	4583	0.0	133	360	
614 r	ows × 13 c	olumns									

4

In [44]:

```
z = ld[(ld.Married=='Yes')& (ld.Loan_Status=='Y')& (ld.CoapplicantIncome > ld.CoapplicantIncome.mean())]
z
```

Out[44]:

	Loan_ID	Gender	Married	Dependents	Education	Self_Employed	ApplicantIncome	CoapplicantIncome	LoanAmount	Loan_Amount_Term	Credit_H
3	LP001006	Male	Yes	0	Not Graduate	No	2583	2358.0	120	360	
5	LP001011	Male	Yes	2	Graduate	Yes	5417	4196.0	267	360	
11	LP001027	Male	Yes	2	Graduate	Yes	2500	1840.0	109	360	
12	LP001028	Male	Yes	2	Graduate	No	3073	8106.0	200	360	
19	LP001041	Male	Yes	0	Graduate	Yes	2600	3500.0	115	342	
590	LP002928	Male	Yes	0	Graduate	No	3000	3416.0	56	180	
593	LP002936	Male	Yes	0	Graduate	No	3859	3300.0	142	180	
601	LP002950	Male	Yes	0	Not Graduate	Yes	2894	2792.0	155	360	
606	LP002961	Male	Yes	1	Graduate	No	3400	2500.0	173	360	
608	LP002974	Male	Yes	0	Graduate	No	3232	1950.0	108	360	
141 r	ows × 13 c	olumns									
4											•

```
In [45]:
```

```
print("The no customers :", z['Gender'].value_counts())
```

The no customers : Male 130 Female 11 Name: Gender, dtype: int64

## **Task 8:-**

```
In [47]:
```

```
y = ld[(ld.Education=='Graduate')&(ld.ApplicantIncome >=10256)& (ld.ApplicantIncome <=150000)]
y</pre>
```

Out[47]:

	Loan_ID	Gender	Married	Dependents	Education	Self_Employed	ApplicantIncome	CoapplicantIncome	LoanAmount	Loan_Amount_Term	Credit_H
9	LP001020	Male	Yes	1	Graduate	No	12841	10968.0	349	360	
34	LP001100	Male	No	3+	Graduate	No	12500	3000.0	320	360	
54	LP001186	Female	Yes	1	Graduate	Yes	11500	0.0	286	360	
67	LP001233	Male	Yes	1	Graduate	No	10750	0.0	312	360	
102	LP001350	Male	Yes	1	Graduate	No	13650	0.0	146	360	
106	LP001369	Male	Yes	2	Graduate	No	11417	1126.0	225	360	
115	LP001401	Male	Yes	1	Graduate	No	14583	0.0	185	180	
119	LP001422	Female	No	0	Graduate	No	10408	0.0	259	360	
126	LP001448	Male	Yes	3+	Graduate	No	23803	0.0	370	360	
128	LP001451	Male	Yes	1	Graduate	Yes	10513	3850.0	160	180	
130	LP001469	Male	No	0	Graduate	Yes	20166	0.0	650	480	
138	LP001492	Male	No	0	Graduate	No	14999	0.0	242	360	
144	LP001508	Male	Yes	2	Graduate	No	11757	0.0	187	180	
146	LP001516	Female	Yes	2	Graduate	No	14866	0.0	70	360	
155	LP001536	Male	Yes	3+	Graduate	No	39999	0.0	600	180	
171	LP001585	Male	Yes	3+	Graduate	No	51763	0.0	700	300	
	LP001303	Male	Yes	1	Graduate	No	33846	0.0	260	360	
	LP001640	Male	Yes	0	Graduate	Yes	39147	4750.0	120	360	
191	LP001656	Male	No	0	Graduate	No	12000	0.0	164	360	
199	LP001673	Male	No	0	Graduate	Yes	11000	0.0	83	360	
				0						360	
254	LP001844	Male	No	0	Graduate	Yes	16250	0.0	192 304	360	
258	LP001859	Male	Yes		Graduate	No No	14683	2100.0			
271	LP001891	Male	Yes	0	Graduate	No	11146	0.0	136	360	
278	LP001907	Male	Yes	0	Graduate	No	14583	0.0	436	360	
284	LP001922	Male	Yes	0	Graduate	No	20667	0.0	146	360	
308	LP001996	Male	No	0	Graduate	No	20233	0.0	480	360	
	LP002065	Male	Yes	3+	Graduate	No	15000	0.0	300	360	
	LP002101	Male	Yes	0	Graduate	No	63337	0.0	490	180	
369	LP002191	Male	Yes	0	Graduate	No	19730	5266.0	570	360	
370	LP002194	Female	No	0	Graduate	Yes	15759	0.0	55	360	
409	LP002317	Male	Yes	3+	Graduate	No	81000	0.0	360	360	
424	LP002364	Male	Yes	0	Graduate	No	14880	0.0	96	360	
	LP002386	Male	No	0	Graduate	Yes	12876	0.0	405	360	
	LP002403	Male	No	0	Graduate	Yes	10416	0.0	187	360	
	LP002422	Male	No	1	Graduate	No	37719	0.0	152	360	
	LP002501	Male	Yes	0	Graduate	No	16692	0.0	110	360	
	LP002527	Male	Yes	2	Graduate	Yes	16525	1014.0	150	360	
	LP002531	Male	Yes	1	Graduate	Yes	16667	2250.0	86	360	
	LP002541	Male	Yes	0	Graduate	No	10833	0.0	234	360	
	LP002547	Male	Yes	1	Graduate	No	18333	0.0	500	360	
	LP002624	Male	Yes	0	Graduate	No	20833	6667.0	480	360	
509	LP002634	Female	No	1	Graduate	No	13262	0.0	40	360	
	LP002699	Male	Yes	2	Graduate	Yes	17500	0.0	400	360	
533	LP002729	Male	No	1	Graduate	No	11250	0.0	196	360	
561	LP002813	Female	Yes	1	Graduate	Yes	19484	0.0	600	360	
572	LP002855	Male	Yes	2	Graduate	No	16666	0.0	275	360	
594	LP002938	Male	Yes	0	Graduate	Yes	16120	0.0	260	360	
604	LP002959	Female	Yes	1	Graduate	No	12000	0.0	496	360	
4											<b>&gt;</b>

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