```
In [1]:
          import pandas as pd
          import numpy as np
          import matplotlib as plt
          %matplotlib inline
          df = pd.read_csv("C:\\Users\\Suresh Jamadagni\\downloads\\train.csv")
In [2]:
          print(df)
               Loan_ID Gender Married Dependents
                                                         Education Self_Employed
         0
              LP001002
                           Male
                                      No
                                                          Graduate
         1
              LP001003
                           Male
                                     Yes
                                                   1
                                                          Graduate
                                                                                No
         2
              LP001005
                           Male
                                     Yes
                                                  0
                                                          Graduate
                                                                               Yes
         3
              LP001006
                           Male
                                     Yes
                                                  0 Not Graduate
                                                                                No
                                                  0
         4
              LP001008
                           Male
                                     No
                                                          Graduate
                                                                                No
                            . . .
                                     . . .
                   . . .
                                                 . . .
                                                                               . . .
         . .
              LP002978
                                                          Graduate
         609
                         Female
                                     No
                                                  0
                                                                                No
                                     Yes
         610
              LP002979
                           Male
                                                 3+
                                                          Graduate
                                                                                No
         611
              LP002983
                           Male
                                     Yes
                                                  1
                                                          Graduate
                                                                                No
         612
              LP002984
                           Male
                                     Yes
                                                   2
                                                          Graduate
                                                                                No
             LP002990 Female
                                                          Graduate
         613
                                      No
                                                  a
                                                                               Yes
              ApplicantIncome
                               CoapplicantIncome LoanAmount Loan_Amount_Term
         0
                          5849
                                               0.0
                                                            NaN
                                                                              360.0
         1
                          4583
                                            1508.0
                                                          128.0
                                                                              360.0
         2
                          3000
                                               0.0
                                                           66.0
                                                                              360.0
         3
                          2583
                                            2358.0
                                                          120.0
                                                                              360.0
         4
                          6000
                                                          141.0
                                               0.0
                                                                              360.0
                                                . . .
                                                            . . .
         609
                          2900
                                               0.0
                                                           71.0
                                                                              360.0
                                                           40.0
         610
                          4106
                                               0.0
                                                                              180.0
         611
                          8072
                                             240.0
                                                          253.0
                                                                              360.0
         612
                          7583
                                               0.0
                                                          187.0
                                                                              360.0
         613
                          4583
                                               0.0
                                                          133.0
                                                                              360.0
              Credit_History Property_Area Loan_Status
                                       Urban
         0
                          1.0
         1
                          1.0
                                       Rural
                                                        N
         2
                          1.0
                                       Urban
                                                        Υ
         3
                          1.0
                                       Urban
         4
                                       Urban
                                                        Υ
                          1.0
                          . . .
                                         . . .
         609
                          1.0
                                       Rural
                                                        Υ
         610
                          1.0
                                       Rural
                                                        Υ
         611
                          1.0
                                       Urban
                                       Urban
         612
                          1.0
                                                        Υ
         613
                          0.0
                                  Semiurban
         [614 rows x 13 columns]
In [3]:
          df.head()
                     #displays first 5 rows
                     Gender Married
                                                            Self_Employed ApplicantIncome
Out[3]:
             Loan_ID
                                      Dependents
                                                  Education
                                                                                           Coapplican
```

Graduate

Graduate

Graduate

1

No

No

Yes

5849

4583

3000

0 LP001002

2 LP001005

LP001003

Male

Male

Male

No

Yes

Yes

	3	LP001006	Male	Yes	0	Not Graduate	No	2583	
	4	LP001008	Male	No	0	Graduate	No	6000	
Tn [4]:									
In [4]:	df	.head(10)							
Out[4]:		Loan_ID G	ender M	arried Do	ependents I	Education	Self_Employed	ApplicantIncome	Coapplican
	0	LP001002	Male	No	0	Graduate	No	5849	
	1	LP001003	Male	Yes	1	Graduate	No	4583	
	2	LP001005	Male	Yes	0	Graduate	Yes	3000	
	3	LP001006	Male	Yes	0	Not Graduate	No	2583	
	4	LP001008	Male	No	0	Graduate	No	6000	
	5	LP001011	Male	Yes	2	Graduate	Yes	5417	
	6	LP001013	Male	Yes	0	Not Graduate	No	2333	
	7	LP001014	Male	Yes	3+	Graduate	No	3036	
	8	LP001018	Male	Yes	2	Graduate	No	4006	
	9	LP001020	Male	Yes	1	Graduate	No	12841	
In [5]:									
[-]-	df.tail()		#displa	ys last	5 rows				
Out[5]:		Loan_ID	Gender	Married	Dependents	Education	Self_Employed	d ApplicantIncome	Coapplic
	609	LP002978	Female	No	0	Graduate	. No	2900)
	610	LP002979	Male	Yes	3+	Graduate	. No	4106	;
	611	LP002983	Male	Yes	1	Graduate	. No	8072	
	612	. LP002984	Male	Yes	2	Graduate	. No	7583	}
	613	LP002990	Female	No	0	Graduate	Ye:	4583	
In [6]:	pr	int(df.tai	1(10))						
	Loan_ID Gender Married Depen					cation Self_E			
	604 605					1 Gr0 Not Gr	aduate aduate	No No	
	606						aduate	No	
	607					2 Not Gr		No	
	608						aduate	No	
	609 610						aduate aduate	No No	
	611						aduate	No	

Loan_ID Gender Married Dependents Education Self_Employed ApplicantIncome Coapplican

```
613
                LP002990
                           Female
                                        No
                                                      a
                                                              Graduate
                                                                                   Yes
                ApplicantIncome
                                   CoapplicantIncome
                                                        LoanAmount
                                                                     Loan_Amount_Term
          604
                           12000
                                                              496.0
                                                                                  360.0
                                                  0.0
          605
                            2400
                                               3800.0
                                                                NaN
                                                                                  180.0
                            3400
          606
                                               2500.0
                                                              173.0
                                                                                  360.0
                            3987
          607
                                               1411.0
                                                              157.0
                                                                                  360.0
          608
                            3232
                                               1950.0
                                                              108.0
                                                                                  360.0
                            2900
                                                  0.0
                                                               71.0
          609
                                                                                  360.0
                            4106
                                                  0.0
                                                               40.0
          610
                                                                                  180.0
                                                240.0
                                                                                  360.0
          611
                            8072
                                                              253.0
          612
                            7583
                                                  0.0
                                                              187.0
                                                                                  360.0
          613
                            4583
                                                   0.0
                                                              133.0
                                                                                  360.0
                Credit_History Property_Area Loan_Status
          604
                            1.0
                                     Semiurban
          605
                            1.0
                                         Urban
                                                           Ν
                            1.0
                                     Semiurban
                                                           Υ
          606
          607
                            1.0
                                          Rural
                                                           Υ
                                          Rural
                                                           Υ
          608
                            1.0
          609
                            1.0
                                          Rural
                                                           Υ
          610
                            1.0
                                          Rural
                                                           Υ
          611
                            1.0
                                         Urban
                                                           Υ
                                         Urban
          612
                            1.0
                                                           Υ
          613
                                     Semiurban
                            0.0
                                                           N
 In [7]:
           df.describe() #Provides summary measures for variables of type : int or float
 Out[7]:
                 ApplicantIncome
                                 CoapplicantIncome
                                                     LoanAmount Loan_Amount_Term
                                                                                      Credit_History
                       614.000000
                                          614.000000
                                                       592.000000
                                                                            600.00000
                                                                                         564.000000
          count
                      5403.459283
                                         1621.245798
                                                                            342.00000
                                                       146.412162
                                                                                            0.842199
           mean
             std
                      6109.041673
                                         2926.248369
                                                        85.587325
                                                                             65.12041
                                                                                            0.364878
                       150.000000
                                            0.000000
                                                         9.000000
                                                                             12.00000
                                                                                            0.000000
            min
            25%
                      2877.500000
                                            0.000000
                                                       100.000000
                                                                            360.00000
                                                                                            1.000000
            50%
                      3812.500000
                                         1188.500000
                                                       128.000000
                                                                            360.00000
                                                                                            1.000000
            75%
                      5795.000000
                                         2297.250000
                                                                                            1.000000
                                                       168.000000
                                                                            360.00000
                     81000.000000
                                        41667.000000
                                                       700.000000
                                                                            480.00000
                                                                                            1.000000
            max
 In [8]:
           print(df['Property Area'].value counts())
                                                               #for categorial data(works like group
          Semiurban
                         233
          Urban
                         202
          Rural
                         179
          Name: Property_Area, dtype: int64
 In [9]:
           print(df['Gender'].value_counts())
                                                       #for categorial data(works like group_by)
          Male
                     489
          Female
                     112
          Name: Gender, dtype: int64
In [11]:
           df.dtypes #displays type of each variable
          Loan_ID
                                   object
```

2

Graduate

No

LP002984

Male

Yes

612

```
Out[11]: Gender
         Married
                                 object
          Dependents
                                 object
          Education
                                 object
          Self Employed
                                 object
          ApplicantIncome
                                  int64
          CoapplicantIncome
                                float64
          LoanAmount
                                float64
                                float64
          Loan_Amount_Term
          Credit_History
                                float64
          Property_Area
                                 object
          Loan_Status
                                 object
          dtype: object
In [12]:
          df.columns #displays variable names (Column name) as a list
          Index(['Loan_ID', 'Gender', 'Married', 'Dependents', 'Education',
Out[12]:
                 'Self_Employed', 'ApplicantIncome', 'CoapplicantIncome', 'LoanAmount',
                 'Loan_Amount_Term', 'Credit_History', 'Property_Area', 'Loan_Status'],
                dtype='object')
In [14]:
          df.columns[0] #displays 1st column name
          'Loan_ID'
Out[14]:
In [15]:
          print(df)
                Loan_ID Gender Married Dependents
                                                         Education Self_Employed \
          0
                           Male
                                      No
                                                          Graduate
               LP001002
                                                   0
                                                                                Nο
                           Male
                                                   1
                                                          Graduate
          1
               LP001003
                                     Yes
                                                                                No
          2
               LP001005
                           Male
                                                          Graduate
                                     Yes
                                                                               Yes
                                     Yes
          3
               LP001006
                           Male
                                                   0 Not Graduate
                                                                                No
          4
               LP001008
                           Male
                                                  0
                                                          Graduate
                                     No
                                                                                No
                    . . .
                             . . .
                                     . . .
                                                                               . . .
                                                 . . .
          . .
               LP002978
          609
                         Female
                                     No
                                                  0
                                                          Graduate
                                                                                No
          610 LP002979
                                                  3+
                                                          Graduate
                           Male
                                     Yes
                                                                                No
          611
              LP002983
                           Male
                                     Yes
                                                  1
                                                          Graduate
                                                                                No
          612
              LP002984
                            Male
                                     Yes
                                                   2
                                                          Graduate
                                                                                No
          613 LP002990 Female
                                                   0
                                                          Graduate
                                      No
                                                                               Yes
               ApplicantIncome CoapplicantIncome LoanAmount Loan Amount Term
          0
                           5849
                                                0.0
                                                            NaN
                                                                              360.0
          1
                           4583
                                             1508.0
                                                          128.0
                                                                              360.0
          2
                           3000
                                                0.0
                                                           66.0
                                                                              360.0
          3
                                             2358.0
                                                          120.0
                           2583
                                                                              360.0
          4
                           6000
                                                          141.0
                                                0.0
                                                                              360.0
                                                . . .
                                                             . . .
                                                                                . . .
                                                           71.0
          609
                           2900
                                                0.0
                                                                              360.0
          610
                           4106
                                                0.0
                                                           40.0
                                                                              180.0
                           8072
                                              240.0
                                                          253.0
          611
                                                                              360.0
          612
                           7583
                                                0.0
                                                          187.0
                                                                              360.0
          613
                           4583
                                                0.0
                                                          133.0
                                                                              360.0
               Credit_History Property_Area Loan_Status
          0
                           1.0
                                       Urban
                                                        Υ
                           1.0
                                       Rural
                                                        Ν
          1
                                       Urban
          2
                           1.0
                                                        Υ
                           1.0
          3
                                       Urban
                                                        Υ
          4
                           1.0
                                       Urban
                                                        Υ
                                          . . .
                           . . .
          609
                           1.0
                                       Rural
                                                        Υ
          610
                           1.0
                                       Rural
                                                        Υ
```

object

```
Urban
                                                          Υ
          612
                           1.0
          613
                           0.0
                                    Semiurban
          [614 rows x 13 columns]
In [16]:
           print (df.replace('NaN',0))
                                                           Education Self_Employed
                 Loan_ID Gender Married Dependents
          0
               LP001002
                            Male
                                       No
                                                            Graduate
          1
               LP001003
                            Male
                                      Yes
                                                    1
                                                            Graduate
                                                                                  No
          2
               LP001005
                            Male
                                      Yes
                                                    a
                                                            Graduate
                                                                                 Yes
          3
               LP001006
                            Male
                                      Yes
                                                    0
                                                        Not Graduate
                                                                                  No
          4
               LP001008
                            Male
                                                    0
                                                            Graduate
                                       No
                                                                                  No
                     . . .
                             . . .
                                      . . .
                                                   . . .
               LP002978
                                                    0
          609
                          Female
                                       No
                                                            Graduate
                                                                                  No
          610
               LP002979
                            Male
                                      Yes
                                                   3+
                                                            Graduate
                                                                                  No
          611
               LP002983
                            Male
                                      Yes
                                                    1
                                                            Graduate
                                                                                  No
          612
               LP002984
                                                    2
                                                            Graduate
                            Male
                                      Yes
                                                                                  No
              LP002990
                                       No
          613
                          Female
                                                     0
                                                            Graduate
                                                                                 Yes
               ApplicantIncome
                                 CoapplicantIncome LoanAmount
                                                                   Loan_Amount_Term
          0
                           5849
                                                                                360.0
                                                 0.0
                                                              NaN
                           4583
                                              1508.0
                                                            128.0
          1
                                                                                360.0
          2
                            3000
                                                             66.0
                                                                                360.0
                                                 0.0
          3
                            2583
                                              2358.0
                                                            120.0
                                                                                360.0
          4
                            6000
                                                 0.0
                                                            141.0
                                                                                360.0
                                                  . . .
                                                              . . .
                                                                                  . . .
                                                             71.0
                                                                                360.0
          609
                           2900
                                                 0.0
          610
                           4106
                                                 0.0
                                                             40.0
                                                                                180.0
                                               240.0
          611
                            8072
                                                            253.0
                                                                                360.0
          612
                            7583
                                                 0.0
                                                            187.0
                                                                                360.0
          613
                           4583
                                                 0.0
                                                            133.0
                                                                                360.0
               Credit_History Property_Area Loan_Status
          0
                           1.0
                                        Urban
          1
                           1.0
                                        Rural
                                                          Ν
          2
                           1.0
                                        Urban
                                                          Υ
          3
                           1.0
                                        Urban
          4
                           1.0
                                        Urban
                                                          Υ
          609
                           1.0
                                        Rural
                                                          Υ
                                                          Υ
          610
                           1.0
                                         Rural
          611
                           1.0
                                        Urban
                                                          Υ
                                                          Υ
          612
                           1.0
                                        Urban
                           0.0
                                    Semiurban
          613
          [614 rows x 13 columns]
In [17]:
           print ("NaN replaced with '0':")
           print( df.fillna(method='pad'))
          NaN replaced with '0':
                 Loan ID Gender Married Dependents
                                                           Education Self Employed
                                                            Graduate
          0
               LP001002
                            Male
                                       No
                                                     0
                                                                                  No
                                                            Graduate
          1
               LP001003
                            Male
                                      Yes
                                                     1
                                                                                  No
          2
               LP001005
                            Male
                                      Yes
                                                     0
                                                            Graduate
                                                                                 Yes
          3
               LP001006
                            Male
                                      Yes
                                                     0
                                                        Not Graduate
                                                                                  No
          4
               LP001008
                                                    0
                                                            Graduate
                            Male
                                       No
                                                                                  No
                              . . .
                                      . . .
                                                   . . .
          609
               LP002978
                          Female
                                       No
                                                    0
                                                            Graduate
                                                                                  No
               LP002979
                                      Yes
                                                   3+
                                                            Graduate
          610
                            Male
                                                                                  No
          611
               LP002983
                            Male
                                      Yes
                                                    1
                                                            Graduate
                                                                                  No
                                                     2
          612
               LP002984
                            Male
                                      Yes
                                                            Graduate
                                                                                  No
```

611

1.0

Urban

Υ

```
Graduate
          613 LP002990 Female
                                       No
                                                    0
                                                                                Yes
               ApplicantIncome
                                 CoapplicantIncome LoanAmount
                                                                   Loan_Amount_Term
          0
                           5849
                                                 0.0
                                                              NaN
                                                                               360.0
          1
                           4583
                                              1508.0
                                                            128.0
                                                                               360.0
          2
                           3000
                                                 0.0
                                                             66.0
                                                                               360.0
          3
                           2583
                                              2358.0
                                                            120.0
                                                                               360.0
          4
                           6000
                                                 0.0
                                                            141.0
                                                                               360.0
                                                 . . .
                                                                                 . . .
          609
                           2900
                                                 0.0
                                                             71.0
                                                                               360.0
          610
                           4106
                                                 0.0
                                                             40.0
                                                                               180.0
          611
                           8072
                                               240.0
                                                            253.0
                                                                               360.0
          612
                           7583
                                                 0.0
                                                            187.0
                                                                               360.0
          613
                           4583
                                                 0.0
                                                            133.0
                                                                               360.0
               Credit_History Property_Area Loan_Status
          0
                           1.0
                                        Urban
          1
                           1.0
                                        Rural
                                                         Ν
          2
                           1.0
                                        Urban
                                                         Υ
          3
                           1.0
                                        Urban
                                                          Υ
          4
                           1.0
                                        Urban
                                                          Υ
          . .
                           . . .
                                           . . .
          609
                           1.0
                                        Rural
                                                         Υ
          610
                           1.0
                                        Rural
                                                         Υ
          611
                                        Urban
                                                         Υ
                           1.0
          612
                           1.0
                                        Urban
                                                         Υ
          613
                           0.0
                                    Semiurban
                                                         Ν
          [614 rows x 13 columns]
In [18]:
           print (df['Loan_ID'].isnull())
          0
                 False
          1
                 False
          2
                 False
          3
                 False
          4
                 False
          609
                 False
          610
                 False
                 False
          611
          612
                 False
          613
                 False
          Name: Loan_ID, Length: 614, dtype: bool
In [19]:
           print (df['Dependents'].notnull())
          0
                 True
          1
                 True
          2
                 True
          3
                 True
          4
                 True
          609
                 True
          610
                 True
          611
                 True
          612
                 True
          613
                 True
          Name: Dependents, Length: 614, dtype: bool
In [20]:
           print( df['Self_Employed'].isnull())
          0
                 False
```

```
1
                 False
          2
                 False
          3
                 False
                 False
                 . . .
          609
                 False
          610
                 False
          611
                 False
          612
                 False
          613
                 False
          Name: Self_Employed, Length: 614, dtype: bool
In [21]:
          print(df)
          print ("NaN replaced with '0':")
          print( df.fillna(0))
                Loan_ID Gender Married Dependents
                                                         Education Self_Employed
          0
               LP001002
                           Male
                                     No
                                                  0
                                                          Graduate
                                                                               No
          1
               LP001003
                           Male
                                     Yes
                                                   1
                                                          Graduate
                                                                               No
          2
                           Male
                                                          Graduate
               LP001005
                                     Yes
                                                  0
                                                                              Yes
          3
               LP001006
                           Male
                                     Yes
                                                  0 Not Graduate
          4
               LP001008
                           Male
                                     No
                                                  0
                                                          Graduate
                                                                                No
                            . . .
                                     . . .
                                                 . . .
                                                                               . . .
               LP002978
                        Female
                                                          Graduate
          609
                                     No
                                                  0
                                                                                No
          610
              LP002979
                           Male
                                     Yes
                                                  3+
                                                          Graduate
                                                                                No
          611
              LP002983
                           Male
                                     Yes
                                                  1
                                                          Graduate
                                                                               No
                                                  2
          612 LP002984
                           Male
                                     Yes
                                                          Graduate
                                                                               No
          613 LP002990 Female
                                     No
                                                   0
                                                          Graduate
                                                                              Yes
               ApplicantIncome CoapplicantIncome LoanAmount Loan_Amount_Term
          0
                           5849
                                                0.0
                                                           NaN
                                                                              360.0
          1
                           4583
                                            1508.0
                                                          128.0
                                                                              360.0
          2
                           3000
                                                0.0
                                                           66.0
                                                                             360.0
                           2583
          3
                                            2358.0
                                                          120.0
                                                                             360.0
                           6000
                                                          141.0
                                                                             360.0
          4
                                                0.0
                           . . .
                                                . . .
          . .
                                                            . . .
                                                                               . . .
         609
                           2900
                                               0.0
                                                           71.0
                                                                             360.0
          610
                          4106
                                               0.0
                                                           40.0
                                                                             180.0
                                                          253.0
          611
                           8072
                                              240.0
                                                                             360.0
          612
                           7583
                                                0.0
                                                          187.0
                                                                             360.0
          613
                          4583
                                                0.0
                                                          133.0
                                                                             360.0
               Credit_History Property_Area Loan_Status
          0
                                       Urban
                           1.0
                                                        Υ
          1
                           1.0
                                       Rural
                                                        Ν
          2
                           1.0
                                       Urban
                                                        Υ
          3
                           1.0
                                       Urban
                                                        Υ
          4
                          1.0
                                       Urban
                                                        Υ
                                         . . .
                           . . .
          609
                          1.0
                                       Rural
                                                        Υ
          610
                          1.0
                                       Rural
                                                        Υ
          611
                          1.0
                                       Urban
                                                        Υ
          612
                           1.0
                                       Urban
                                                        Υ
                           0.0
                                   Semiurban
          613
          [614 rows x 13 columns]
          NaN replaced with '0':
                Loan_ID Gender Married Dependents
                                                         Education Self_Employed
                                     No
          0
               LP001002
                           Male
                                                          Graduate
                                                0
                                                                                No
               LP001003
                                     Yes
          1
                           Male
                                                   1
                                                          Graduate
                                                                                No
          2
               LP001005
                           Male
                                     Yes
                                                  0
                                                          Graduate
                                                                              Yes
          3
               LP001006
                           Male
                                     Yes
                                                  0 Not Graduate
                                                                               Nο
          4
               LP001008
                           Male
                                     No
                                                   0
                                                          Graduate
                                                                                No
                    . . .
                            . . .
                                     . . .
          . .
                                                 . . .
                                                                               . . .
```

```
609 LP002978 Female
                                      No
                                                   0
                                                           Graduate
                                                                                No
                           Male
                                                  3+
                                                           Graduate
          610
               LP002979
                                     Yes
                                                                                No
               LP002983
                            Male
                                     Yes
                                                   1
                                                           Graduate
          611
                                                                                No
          612
               LP002984
                            Male
                                     Yes
                                                   2
                                                           Graduate
                                                                                No
          613 LP002990 Female
                                                   0
                                                           Graduate
                                      No
                                                                               Yes
               ApplicantIncome CoapplicantIncome LoanAmount Loan_Amount_Term
          0
                           5849
                                                0.0
                                                             0.0
                                                                              360.0
          1
                           4583
                                             1508.0
                                                           128.0
                                                                              360.0
          2
                           3000
                                                0.0
                                                           66.0
                                                                              360.0
          3
                           2583
                                             2358.0
                                                           120.0
                                                                              360.0
          4
                           6000
                                                0.0
                                                           141.0
                                                                              360.0
                            . . .
                                                . . .
                                                             . . .
                                                                                . . .
          . .
          609
                           2900
                                                0.0
                                                            71.0
                                                                              360.0
                           4106
                                                0.0
                                                           40.0
                                                                              180.0
          610
                                                           253.0
          611
                           8072
                                              240.0
                                                                              360.0
          612
                           7583
                                                0.0
                                                           187.0
                                                                              360.0
          613
                           4583
                                                0.0
                                                           133.0
                                                                              360.0
               Credit_History Property_Area Loan_Status
          0
                           1.0
                                       Urban
          1
                           1.0
                                       Rural
                                                        Ν
                                       Urban
          2
                           1.0
                                                        Υ
          3
                           1.0
                                       Urban
                                                         Υ
          4
                           1.0
                                       Urban
                                                         Υ
                           . . .
                                         . . .
                                                         Υ
          609
                           1.0
                                       Rural
          610
                           1.0
                                       Rural
                                                         Υ
          611
                           1.0
                                       Urban
                                                        Υ
          612
                                       Urban
                                                        Υ
                           1.0
          613
                           0.0
                                   Semiurban
          [614 rows x 13 columns]
In [22]:
           df = df.dropna() #drops rows with null values
In [23]:
           print(df)
                Loan_ID Gender Married Dependents
                                                          Education Self_Employed
          1
               LP001003
                           Male
                                     Yes
                                               1
                                                           Graduate
                                                                                No
          2
               LP001005
                            Male
                                     Yes
                                                   0
                                                           Graduate
                                                                               Yes
                                                  0 Not Graduate
          3
               LP001006
                           Male
                                     Yes
                                                                                No
          4
               LP001008
                            Male
                                     No
                                                  0
                                                           Graduate
                                                                                No
          5
               LP001011
                           Male
                                                   2
                                                           Graduate
                                     Yes
                                                                               Yes
          . .
                            . . .
                                     . . .
                                                 . . .
          609
               LP002978
                          Female
                                     No
                                                  0
                                                           Graduate
                                                                                No
          610
               LP002979
                           Male
                                     Yes
                                                  3+
                                                           Graduate
                                                                                No
                                                           Graduate
          611
               LP002983
                            Male
                                     Yes
                                                   1
                                                                                No
          612
              LP002984
                            Male
                                     Yes
                                                   2
                                                           Graduate
                                                                                No
          613
              LP002990 Female
                                     No
                                                           Graduate
                                                                               Yes
               ApplicantIncome CoapplicantIncome LoanAmount
                                                                 Loan_Amount_Term
          1
                           4583
                                             1508.0
                                                           128.0
                                                                              360.0
          2
                           3000
                                                            66.0
                                                                              360.0
                                                0.0
          3
                           2583
                                             2358.0
                                                           120.0
                                                                              360.0
          4
                           6000
                                                           141.0
                                                                              360.0
                                                0.0
          5
                           5417
                                             4196.0
                                                           267.0
                                                                              360.0
                            . . .
                                                . . .
                                                            . . .
                                                                                . . .
          . .
                                                           71.0
          609
                           2900
                                                0.0
                                                                              360.0
          610
                           4106
                                               0.0
                                                           40.0
                                                                              180.0
          611
                           8072
                                              240.0
                                                           253.0
                                                                              360.0
          612
                           7583
                                               0.0
                                                           187.0
                                                                              360.0
                           4583
                                                0.0
                                                           133.0
          613
                                                                              360.0
```

	Credit_History	Property_Area	Loan_Status
1	1.0	Rural	N
2	1.0	Urban	Υ
3	1.0	Urban	Υ
4	1.0	Urban	Υ
5	1.0	Urban	Υ
• •	• • •	• • •	• • •
609	1.0	Rural	Υ
610	1.0	Rural	Υ
611	1.0	Urban	Υ
612	1.0	Urban	Υ
613	0.0	Semiurban	N

[480 rows x 13 columns]

In []:			