

hd9gem3li

March 6, 2025

```
[2]: import pandas as pd
import numpy as np
import statistics as st
```

```
[3]: data_frame=pd.read_csv("/home/ubuntu/DSBDA/test_AV3.csv")
print(data_frame)
```

	Loan_ID	Gender	Married	Dependents	Education	Self_Employed	\
0	LP001015	Male	Yes	0	Graduate	No	
1	LP001022	Male	Yes	1	Graduate	No	
2	LP001031	Male	Yes	2	Graduate	No	
3	LP001035	Male	Yes	2	Graduate	No	
4	LP001051	Male	No	0	Not Graduate	No	
..	...	...	...	...	...	...	
362	LP002971	Male	Yes	3+	Not Graduate	Yes	
363	LP002975	Male	Yes	0	Graduate	No	
364	LP002980	Male	No	0	Graduate	No	
365	LP002986	Male	Yes	0	Graduate	No	
366	LP002989	Male	No	0	Graduate	Yes	

	ApplicantIncome	CoapplicantIncome	LoanAmount	Loan_Amount_Term	\
0	5720	0	110.0	360.0	
1	3076	1500	126.0	360.0	
2	5000	1800	208.0	360.0	
3	2340	2546	100.0	360.0	
4	3276	0	78.0	360.0	
..	...	...	...	...	
362	4009	1777	113.0	360.0	
363	4158	709	115.0	360.0	
364	3250	1993	126.0	360.0	
365	5000	2393	158.0	360.0	
366	9200	0	98.0	180.0	

	Credit_History	Property_Area	Loan_Status
0	1.0	Urban	Y
1	1.0	Urban	Y
2	1.0	Urban	Y
3	NaN	Urban	Y

```

4          1.0          Urban          Y
..          ...          ...          ...
362         1.0          Urban          Y
363         1.0          Urban          Y
364         NaN        Semiurban          Y
365         1.0          Rural          Y
366         1.0          Rural          Y

```

[367 rows x 13 columns]

```
[4]: print(data_frame.info())
```

```

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 367 entries, 0 to 366
Data columns (total 13 columns):
#   Column                Non-Null Count  Dtype
---  -
0   Loan_ID               367 non-null   object
1   Gender                356 non-null   object
2   Married               367 non-null   object
3   Dependents            357 non-null   object
4   Education              367 non-null   object
5   Self_Employed         344 non-null   object
6   ApplicantIncome       367 non-null   int64
7   CoapplicantIncome     367 non-null   int64
8   LoanAmount            362 non-null   float64
9   Loan_Amount_Term      361 non-null   float64
10  Credit_History        338 non-null   float64
11  Property_Area         367 non-null   object
12  Loan_Status           367 non-null   object
dtypes: float64(3), int64(2), object(8)
memory usage: 37.4+ KB
None

```

```
[5]: print(data_frame.mean)
```

```

<bound method NDFrame._add_numeric_operations.<locals>.mean of
Gender Married Dependents Education Self_Employed \      Loan_ID
0   LP001015   Male   Yes      0      Graduate      No
1   LP001022   Male   Yes      1      Graduate      No
2   LP001031   Male   Yes      2      Graduate      No
3   LP001035   Male   Yes      2      Graduate      No
4   LP001051   Male   No       0  Not Graduate      No
..          ...   ...   ...   ...   ...   ...
362 LP002971   Male   Yes      3+  Not Graduate      Yes
363 LP002975   Male   Yes      0      Graduate      No
364 LP002980   Male   No       0      Graduate      No
365 LP002986   Male   Yes      0      Graduate      No

```

366	LP002989	Male	No	0	Graduate	Yes
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	ApplicantIncome	CoapplicantIncome	LoanAmount	Loan_Amount_Term	\
0	5720	0	110.0	360.0	
1	3076	1500	126.0	360.0	
2	5000	1800	208.0	360.0	
3	2340	2546	100.0	360.0	
4	3276	0	78.0	360.0	
..	...	...	...	...	
362	4009	1777	113.0	360.0	
363	4158	709	115.0	360.0	
364	3250	1993	126.0	360.0	
365	5000	2393	158.0	360.0	
366	9200	0	98.0	180.0	

  

	Credit_History	Property_Area	Loan_Status
0	1.0	Urban	Y
1	1.0	Urban	Y
2	1.0	Urban	Y
3	NaN	Urban	Y
4	1.0	Urban	Y
..	...	...	...
362	1.0	Urban	Y
363	1.0	Urban	Y
364	NaN	Semiurban	Y
365	1.0	Rural	Y
366	1.0	Rural	Y

[367 rows x 13 columns]>

```
[6]: print(data_frame.loc[:, 'ApplicantIncome'].mean())
```

4805.599455040872

```
[7]: print(data_frame.loc[:, 'ApplicantIncome'].median())
```

3786.0

```
[8]: print(data_frame.mode)
```

<bound method DataFrame.mode of				Loan_ID Gender Married Dependents		
	Education	Self_Employed	\			
0	LP001015	Male	Yes	0	Graduate	No
1	LP001022	Male	Yes	1	Graduate	No
2	LP001031	Male	Yes	2	Graduate	No
3	LP001035	Male	Yes	2	Graduate	No
4	LP001051	Male	No	0	Not Graduate	No
..	...	...	...	...	...	...

362	LP002971	Male	Yes	3+	Not Graduate	Yes
363	LP002975	Male	Yes	0	Graduate	No
364	LP002980	Male	No	0	Graduate	No
365	LP002986	Male	Yes	0	Graduate	No
366	LP002989	Male	No	0	Graduate	Yes

	ApplicantIncome	CoapplicantIncome	LoanAmount	Loan_Amount_Term \
0	5720	0	110.0	360.0
1	3076	1500	126.0	360.0
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..	...	...	...	...
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1	1.0	Urban	Y
2	1.0	Urban	Y
3	NaN	Urban	Y
4	1.0	Urban	Y
..	...	...	...
362	1.0	Urban	Y
363	1.0	Urban	Y
364	NaN	Semiurban	Y
365	1.0	Rural	Y
366	1.0	Rural	Y

[367 rows x 13 columns]>

```
[9]: print(data_frame.loc[:, 'ApplicantIncome'].mode())
```

```
0    3500
1    5000
Name: ApplicantIncome, dtype: int64
```

```
[10]: print(data_frame.median)
```

```
<bound method NDFrame._add_numeric_operations.<locals>.median of      Loan_ID
Gender Married Dependents      Education Self_Employed \
0    LP001015    Male      Yes           0      Graduate      No
1    LP001022    Male      Yes           1      Graduate      No
2    LP001031    Male      Yes           2      Graduate      No
3    LP001035    Male      Yes           2      Graduate      No
```

4	LP001051	Male	No	0	Not Graduate	No
..	...	...	...	...	...	...
362	LP002971	Male	Yes	3+	Not Graduate	Yes
363	LP002975	Male	Yes	0	Graduate	No
364	LP002980	Male	No	0	Graduate	No
365	LP002986	Male	Yes	0	Graduate	No
366	LP002989	Male	No	0	Graduate	Yes

	ApplicantIncome	CoapplicantIncome	LoanAmount	Loan_Amount_Term \
0	5720	0	110.0	360.0
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4	3276	0	78.0	360.0
..	...	...	...	...
362	4009	1777	113.0	360.0
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366	9200	0	98.0	180.0

	Credit_History	Property_Area	Loan_Status
0	1.0	Urban	Y
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3	NaN	Urban	Y
4	1.0	Urban	Y
..	...	...	...
362	1.0	Urban	Y
363	1.0	Urban	Y
364	NaN	Semiurban	Y
365	1.0	Rural	Y
366	1.0	Rural	Y

[367 rows x 13 columns]>

```
[11]: print(data_frame.loc[:, 'ApplicantIncome'].std())
```

4910.685398980397

```
[12]: print(data_frame.loc[:, 'LoanAmount'].std())
```

61.36665239301822

```
[13]: print(data_frame.loc[:, 'LoanAmount'].var())
```

3765.866025925529

[ ]: