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In [1]: #Exp No. 2
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In [2]: #Aim:To Perform operation of Data manipulation on Data set.
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In [3]: #Name:Khushi Bhaisare
#Roll no: 09
#Sec:A
#Subject:Data Science and Statistics
#Date:05/08/2023
```

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In [4]: #Theory:-Data manipulation is the method of organizing data to make it easier to read or more
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In [5]: import pandas as pd
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In [6]: import os
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In [7]: os.getcwd()
```

```
Out[7]: 'C:\\Users\\cmahl\\project notebook'
```

```
In [8]: os.chdir('C:\\Users\\cmahl\\Desktop')
```

```
In [9]: data=pd.read_csv("diabetes.csv")
```

```
In [10]: data.head(10)
```

	Pregnancies	Glucose	BloodPressure	SkinThickness	Insulin	BMI	DiabetesPedigreeFunction	Age	Outcome
0	6	148	72	35	0	33.6	0.627	50	1
1	1	85	66	29	0	26.6	0.351	31	0
2	8	183	64	0	0	23.3	0.672	32	1
3	1	89	66	23	94	28.1	0.167	21	0
4	0	137	40	35	168	43.1	2.288	33	1
5	5	116	74	0	0	25.6	0.201	30	0
6	3	78	50	32	88	31.0	0.248	26	1
7	10	115	0	0	0	35.3	0.134	29	0
8	2	197	70	45	543	30.5	0.158	53	1
9	8	125	96	0	0	0.0	0.232	54	1

```
In [11]: data.tail()
```

	Pregnancies	Glucose	BloodPressure	SkinThickness	Insulin	BMI	DiabetesPedigreeFunction	Age	Outcome
763	10	101	76	48	180	32.9	0.171	63	0
764	2	122	70	27	0	36.8	0.340	27	0
765	5	121	72	23	112	26.2	0.245	30	0
766	1	126	60	0	0	30.1	0.349	47	1
767	1	93	70	31	0	30.4	0.315	23	0

```
In [13]: #Pandas.size,.shape and .ndim are used to return size, shape and dimensions of_data
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In [14]: #Returns tuple of shape (Rows,columns) of data
```

```
In [15]: data.shape
```

Out[15]: (768, 9)

In [16]: `#Returns size of dataframe/series which is equivalent to total number of elements.
#That is rows x columns.`

In [17]: `data.size`

Out[17]: 6912

In [18]: `data.ndim`

Out[18]: 2

In [19]: `data.columns`

Out[19]: Index(['Pregnancies', 'Glucose', 'BloodPressure', 'SkinThickness', 'Insulin', 'BMI', 'DiabetesPedigreeFunction', 'Age', 'Outcome'], dtype='object')

In [20]: `data.head()`

Out[20]:

	Pregnancies	Glucose	BloodPressure	SkinThickness	Insulin	BMI	DiabetesPedigreeFunction	Age	Outcome
0	6	148	72	35	0	33.6	0.627	50	1
1	1	85	66	29	0	26.6	0.351	31	0
2	8	183	64	0	0	23.3	0.672	32	1
3	1	89	66	23	94	28.1	0.167	21	0
4	0	137	40	35	168	43.1	2.288	33	1

In [21]: `data.drop(labels="Age",axis=1)`

Out[21]:

	Pregnancies	Glucose	BloodPressure	SkinThickness	Insulin	BMI	DiabetesPedigreeFunction	Outcome
0	6	148	72	35	0	33.6	0.627	1
1	1	85	66	29	0	26.6	0.351	0
2	8	183	64	0	0	23.3	0.672	1
3	1	89	66	23	94	28.1	0.167	0
4	0	137	40	35	168	43.1	2.288	1
...
763	10	101	76	48	180	32.9	0.171	0
764	2	122	70	27	0	36.8	0.340	0
765	5	121	72	23	112	26.2	0.245	0
766	1	126	60	0	0	30.1	0.349	1
767	1	93	70	31	0	30.4	0.315	0

768 rows × 8 columns

In [22]: `data.drop(labels=["Age", "Glucose"],axis=1)`

Out[22]:

	Pregnancies	BloodPressure	SkinThickness	Insulin	BMI	DiabetesPedigreeFunction	Outcome
0	6	72	35	0	33.6	0.627	1
1	1	66	29	0	26.6	0.351	0
2	8	64	0	0	23.3	0.672	1
3	1	66	23	94	28.1	0.167	0
4	0	40	35	168	43.1	2.288	1

...
763	10	76	48	180	32.9	0.171	0
764	2	70	27	0	36.8	0.340	0
765	5	72	23	112	26.2	0.245	0
766	1	60	0	0	30.1	0.349	1
767	1	70	31	0	30.4	0.315	0

768 rows × 7 columns

```
In [23]: data.drop(labels=2,axis=0)
```

	Pregnancies	Glucose	BloodPressure	SkinThickness	Insulin	BMI	DiabetesPedigreeFunction	Age	Outcome
0	6	148	72	35	0	33.6	0.627	50	1
1	1	85	66	29	0	26.6	0.351	31	0
3	1	89	66	23	94	28.1	0.167	21	0
4	0	137	40	35	168	43.1	2.288	33	1
5	5	116	74	0	0	25.6	0.201	30	0
...
763	10	101	76	48	180	32.9	0.171	63	0
764	2	122	70	27	0	36.8	0.340	27	0
765	5	121	72	23	112	26.2	0.245	30	0
766	1	126	60	0	0	30.1	0.349	47	1
767	1	93	70	31	0	30.4	0.315	23	0

767 rows × 9 columns

```
In [24]: data.head(10)
```

	Pregnancies	Glucose	BloodPressure	SkinThickness	Insulin	BMI	DiabetesPedigreeFunction	Age	Outcome
0	6	148	72	35	0	33.6	0.627	50	1
1	1	85	66	29	0	26.6	0.351	31	0
2	8	183	64	0	0	23.3	0.672	32	1
3	1	89	66	23	94	28.1	0.167	21	0
4	0	137	40	35	168	43.1	2.288	33	1
5	5	116	74	0	0	25.6	0.201	30	0
6	3	78	50	32	88	31.0	0.248	26	1
7	10	115	0	0	0	35.3	0.134	29	0
8	2	197	70	45	543	30.5	0.158	53	1
9	8	125	96	0	0	0.0	0.232	54	1

```
In [25]: data.drop(labels=[2,3],axis=0)
```

	Pregnancies	Glucose	BloodPressure	SkinThickness	Insulin	BMI	DiabetesPedigreeFunction	Age	Outcome
0	6	148	72	35	0	33.6	0.627	50	1
1	1	85	66	29	0	26.6	0.351	31	0
4	0	137	40	35	168	43.1	2.288	33	1
5	5	116	74	0	0	25.6	0.201	30	0
6	3	78	50	32	88	31.0	0.248	26	1
...
763	10	101	76	48	180	32.9	0.171	63	0
764	2	122	70	27	0	36.8	0.340	27	0
765	5	121	72	23	112	26.2	0.245	30	0
766	1	126	60	0	0	30.1	0.349	47	1

7671937031030.40.315230

766 rows × 9 columns

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