

Load required libraries

```
In [39]: import pandas as pd
import numpy as np
import requests
```

Load dataset

```
In [11]: df= pd.read_csv("DSBD_ASS _3_DB.csv")
df
```

Out[11]:

	Name	Roll no	gender	AI	DS&BD	WT	IS
0	Yash	223101	male	45	65	77	84
1	Prit	223102	female	35	19	40	26
2	Meet	223103	female	89	71	74	67
3	Drashti	223104	female	45	36	19	74
4	Saloni	223105	female	90	38	40	46
...
62	Margi	223163	female	75	44	70	81
63	Kajal	223164	female	48	82	55	55
64	Mital	223165	female	98	60	97	79
65	Nevil	223166	male	65	21	53	19
66	Krishna	223167	male	75	67	2	71

67 rows × 7 columns

get Info

```
In [12]: df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 67 entries, 0 to 66
Data columns (total 7 columns):
 #   Column    Non-Null Count  Dtype  
--- 
 0   Name      67 non-null    object 
 1   Roll no   67 non-null    int64  
 2   gender    67 non-null    object 
 3   AI        67 non-null    int64  
 4   DS&BD    67 non-null    int64  
 5   WT        67 non-null    int64  
 6   IS        67 non-null    int64  
dtypes: int64(5), object(2)
memory usage: 3.8+ KB
```

get shape

```
In [40]: df.shape
```

```
Out[40]: (67, 7)
```

get head

```
In [41]: df.head()
```

```
Out[41]:
```

	Name	Roll no	gender	AI	DS&BD	WT	IS
0	Yash	223101	male	45	65	77	84
1	Prit	223102	female	35	19	40	26
2	Meet	223103	female	89	71	74	67
3	Drashti	223104	female	45	36	19	74
4	Saloni	223105	female	90	38	40	46

get tail

```
In [42]: df.tail()
```

```
Out[42]:
```

	Name	Roll no	gender	AI	DS&BD	WT	IS
62	Margi	223163	female	75	44	70	81
63	Kajal	223164	female	48	82	55	55
64	Mital	223165	female	98	60	97	79
65	Nevil	223166	male	65	21	53	19
66	Krishna	223167	male	75	67	2	71

get description

```
In [43]: df.describe()
```

Out[43]:

	Roll no	AI	DS&BD	WT	IS
count	67.000000	67.000000	67.000000	67.000000	67.000000
mean	223134.000000	64.283582	46.388060	50.328358	56.044776
std	19.485037	22.146076	28.685312	27.851548	28.867741
min	223101.000000	8.000000	0.000000	2.000000	2.000000
25%	223117.500000	49.500000	18.500000	30.500000	32.500000
50%	223134.000000	65.000000	49.000000	51.000000	55.000000
75%	223150.500000	83.500000	69.500000	72.000000	83.500000
max	223167.000000	98.000000	99.000000	97.000000	99.000000

mean avarage value of all data points

In [44]: df[['AI', 'DS&BD', 'WT', 'IS']].mean()

Out[44]:

AI	64.283582
DS&BD	46.388060
WT	50.328358
IS	56.044776

dtype: float64

median it is the middle number in a set of data when the data is arranged in ascending or descending order

In [45]: df[['AI', 'DS&BD', 'WT', 'IS']].median()

Out[45]:

AI	65.0
DS&BD	49.0
WT	51.0
IS	55.0

dtype: float64

:- minimum value from columns in given dataset which contain numeric data

In [46]: df[['AI', 'DS&BD', 'WT', 'IS']].min()

Out[46]:

AI	8
DS&BD	0
WT	2
IS	2

dtype: int64

maximum value from columns in given dataset which contain numeric data

In [47]: df[['AI', 'DS&BD', 'WT', 'IS']].max()

```
Out[47]: AI      98  
          DS&BD  99  
          WT     97  
          IS     99  
         dtype: int64
```

:- standard deviation of columns from given dataset which contains numeric data.

```
In [48]: df[['AI','DS&BD','WT','IS']].std()
```

```
Out[48]: AI      22.146076  
          DS&BD  28.685312  
          WT     27.851548  
          IS     28.867741  
         dtype: float64
```

group by gender

```
In [22]: df2=df.groupby('gender')  
df2
```

```
Out[22]: <pandas.core.groupby.generic.DataFrameGroupBy object at 0x0000023FCCF9BEB0>
```

```
In [23]: for gender,g in df2:  
          print(gender)  
          print(g)
```

female

	Name	Roll no	gender	AI	DS&BD	WT	IS
1	Prit	223102	female	35	19	40	26
2	Meet	223103	female	89	71	74	67
3	Drashti	223104	female	45	36	19	74
4	Saloni	223105	female	90	38	40	46
5	Hinal	223106	female	45	18	8	2
7	Darshana	223108	female	56	74	90	83
9	Janvi	223110	female	78	33	84	93
11	Naman	223112	female	67	57	35	33
12	Khyati	223113	female	78	57	89	92
13	Sikha	223114	female	76	33	48	40
14	Minal	223115	female	56	11	8	91
15	Milan	223116	female	54	58	42	30
18	Ravina	223119	female	89	87	4	21
19	Priti	223120	female	34	29	72	26
20	Hetal	223121	female	85	53	51	93
21	Pooja	223122	female	63	18	51	25
25	Radhika	223126	female	75	2	68	25
26	Riya	223127	female	15	37	46	51
27	Komal	223128	female	65	46	13	93
29	kunjal	223130	female	35	4	45	64
31	Mona	223132	female	42	68	66	17
32	Bhavya	223133	female	15	70	80	54
33	Bhavika	223134	female	86	61	18	67
34	Rina	223135	female	78	36	63	70
35	Hetavi	223136	female	98	81	92	64
39	Jasmin	223140	female	69	93	59	43
41	Sweta	223142	female	54	33	42	96
42	Vidhi	223143	female	8	69	28	56
43	Nayan	223144	female	83	80	41	89
45	Sonal	223146	female	91	81	63	85
46	Bhavika	223147	female	84	94	45	51
49	Preet	223150	female	98	16	51	8
60	Jenny	223161	female	85	84	18	98
61	Dhruvi	223162	female	96	8	2	49
62	Margi	223163	female	75	44	70	81
63	Kajal	223164	female	48	82	55	55
64	Mital	223165	female	98	60	97	79

male

	Name	Roll no	gender	AI	DS&BD	WT	IS
0	Yash	223101	male	45	65	77	84
6	Jay	223107	male	67	53	73	66
8	Hardik	223109	male	37	42	44	45
10	Ronak	223111	male	56	49	59	36
16	Kaushik	223117	male	55	74	97	98
17	Smit	223118	male	52	6	66	93
22	Kishan	223123	male	45	11	69	10
23	Akshar	223124	male	25	4	97	58
24	Akshay	223125	male	95	0	89	4
28	Mihir	223129	male	85	55	84	42
30	Moxil	223131	male	68	0	4	28
36	Manoj	223137	male	35	50	25	70
37	Raghav	223138	male	56	16	60	45
38	Gopal	223139	male	68	13	77	92
40	Akshay	223141	male	67	99	11	64
44	Prashant	223145	male	92	42	25	4
47	Bhavik	223148	male	76	64	72	47
48	Manthan	223149	male	65	76	16	92
50	Darpit	223151	male	93	59	5	25

51	Harsh	223152	male	92	73	81	91
52	Kashyap	223153	male	51	96	50	10
53	Bhautik	223154	male	62	6	39	99
54	Dhruv	223155	male	42	33	51	55
55	Ishva	223156	male	78	40	33	51
56	Mitesh	223157	male	54	11	9	34
57	Denish	223158	male	65	88	55	32
58	Abhi	223159	male	62	4	37	54
59	Jenish	223160	male	41	50	95	99
65	Nevil	223166	male	65	21	53	19
66	Krishna	223167	male	75	67	2	71

In []:

In [25]: df2.get_group('male')

Out[25]:

	Name	Roll no	gender	AI	DS&BD	WT	IS
0	Yash	223101	male	45	65	77	84
6	Jay	223107	male	67	53	73	66
8	Hardik	223109	male	37	42	44	45
10	Ronak	223111	male	56	49	59	36
16	Kaushik	223117	male	55	74	97	98
17	Smit	223118	male	52	6	66	93
22	Kishan	223123	male	45	11	69	10
23	Akshar	223124	male	25	4	97	58
24	Akshay	223125	male	95	0	89	4
28	Mihir	223129	male	85	55	84	42
30	Moxil	223131	male	68	0	4	28
36	Manoj	223137	male	35	50	25	70
37	Raghav	223138	male	56	16	60	45
38	Gopal	223139	male	68	13	77	92
40	Akshay	223141	male	67	99	11	64
44	Prashant	223145	male	92	42	25	4
47	Bhavik	223148	male	76	64	72	47
48	Manthan	223149	male	65	76	16	92
50	Darpit	223151	male	93	59	5	25
51	Harsh	223152	male	92	73	81	91
52	Kashyap	223153	male	51	96	50	10
53	Bhautik	223154	male	62	6	39	99
54	Dhruv	223155	male	42	33	51	55
55	Ishva	223156	male	78	40	33	51
56	Mitesh	223157	male	54	11	9	34
57	Denish	223158	male	65	88	55	32
58	Abhi	223159	male	62	4	37	54
59	Jenish	223160	male	41	50	95	99
65	Nevil	223166	male	65	21	53	19
66	Krishna	223167	male	75	67	2	71

In []:

In [26]: df2.get_group('Female')

Out[26]:

	Name	Roll no	gender	AI	DS&BD	WT	IS
1	Prit	223102	female	35	19	40	26
2	Meet	223103	female	89	71	74	67
3	Drashti	223104	female	45	36	19	74
4	Saloni	223105	female	90	38	40	46
5	Hinal	223106	female	45	18	8	2
7	Darshana	223108	female	56	74	90	83
9	Janvi	223110	female	78	33	84	93
11	Naman	223112	female	67	57	35	33
12	Khyati	223113	female	78	57	89	92
13	Sikha	223114	female	76	33	48	40
14	Minal	223115	female	56	11	8	91
15	Milan	223116	female	54	58	42	30
18	Ravina	223119	female	89	87	4	21
19	Priti	223120	female	34	29	72	26
20	Hetal	223121	female	85	53	51	93
21	Pooja	223122	female	63	18	51	25
25	Radhika	223126	female	75	2	68	25
26	Riya	223127	female	15	37	46	51
27	Komal	223128	female	65	46	13	93
29	kunjal	223130	female	35	4	45	64
31	Mona	223132	female	42	68	66	17
32	Bhavya	223133	female	15	70	80	54
33	Bhavika	223134	female	86	61	18	67
34	Rina	223135	female	78	36	63	70
35	Hetavi	223136	female	98	81	92	64
39	Jasmin	223140	female	69	93	59	43
41	Sweta	223142	female	54	33	42	96
42	Vidhi	223143	female	8	69	28	56
43	Nayan	223144	female	83	80	41	89
45	Sonal	223146	female	91	81	63	85
46	Bhavika	223147	female	84	94	45	51
49	Preet	223150	female	98	16	51	8
60	Jenny	223161	female	85	84	18	98

	Name	Roll no	gender	AI	DS&BD	WT	IS
61	Dhruvi	223162	female	96		8	2 49
62	Margi	223163	female	75		44	70 81
63	Kajal	223164	female	48		82	55 55
64	Mital	223165	female	98		60	97 79

In []:

In [27]: df2[['AI','DS&BD','WT','IS']].max()

Out[27]: AI DS&BD WT IS

gender	AI	DS&BD	WT	IS
female	98	94	97	98
male	95	99	97	99

In []:

In [28]: df2[['AI','DS&BD','WT','AI']].mean()

Out[28]: AI DS&BD WT AI

gender	AI	DS&BD	WT	AI
female	65.891892	49.756757	49.108108	65.891892
male	62.300000	42.233333	51.833333	62.300000

In []:

In [29]: df2[['AI','DS&BD','WT','AI']].min()

Out[29]: AI DS&BD WT AI

gender	AI	DS&BD	WT	AI
female	8	2	2	8
male	25	0	2	25

In []:

In [30]: df2[['AI','DS&BD','WT','AI']].std()

Out[30]:

	AI	DS&BD	WT	AI
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gender

female	24.978640	27.173726	26.416308	24.978640
male	18.283495	30.392471	29.914918	18.283495

In []:

In [32]: df3=df3
df3

Out[32]:

	Name	Roll no	gender	AI	DS&BD	WT	IS
0	Yash	223101	male	45	65	77	84
1	Prit	223102	female	35	19	40	26
2	Meet	223103	female	89	71	74	67
3	Drashti	223104	female	45	36	19	74
4	Saloni	223105	female	90	38	40	46
...
62	Margi	223163	female	75	44	70	81
63	Kajal	223164	female	48	82	55	55
64	Mital	223165	female	98	60	97	79
65	Nevil	223166	male	65	21	53	19
66	Krishna	223167	male	75	67	2	71

67 rows × 7 columns

In []:

In [34]: df4=df3.groupby("gender")
df4

Out[34]: <pandas.core.groupby.generic.DataFrameGroupBy object at 0x0000023FCCFD2E80>

In []:

In [35]: df4.get_group('male')

Out[35]:

	Name	Roll no	gender	AI	DS&BD	WT	IS
0	Yash	223101	male	45	65	77	84
6	Jay	223107	male	67	53	73	66
8	Hardik	223109	male	37	42	44	45
10	Ronak	223111	male	56	49	59	36
16	Kaushik	223117	male	55	74	97	98
17	Smit	223118	male	52	6	66	93
22	Kishan	223123	male	45	11	69	10
23	Akshar	223124	male	25	4	97	58
24	Akshay	223125	male	95	0	89	4
28	Mihir	223129	male	85	55	84	42
30	Moxil	223131	male	68	0	4	28
36	Manoj	223137	male	35	50	25	70
37	Raghav	223138	male	56	16	60	45
38	Gopal	223139	male	68	13	77	92
40	Akshay	223141	male	67	99	11	64
44	Prashant	223145	male	92	42	25	4
47	Bhavik	223148	male	76	64	72	47
48	Manthan	223149	male	65	76	16	92
50	Darpit	223151	male	93	59	5	25
51	Harsh	223152	male	92	73	81	91
52	Kashyap	223153	male	51	96	50	10
53	Bhautik	223154	male	62	6	39	99
54	Dhruv	223155	male	42	33	51	55
55	Ishva	223156	male	78	40	33	51
56	Mitesh	223157	male	54	11	9	34
57	Denish	223158	male	65	88	55	32
58	Abhi	223159	male	62	4	37	54
59	Jenish	223160	male	41	50	95	99
65	Nevil	223166	male	65	21	53	19
66	Krishna	223167	male	75	67	2	71

In []:

In [37]: df4.get_group('male')

Out[37]:

	Name	Roll no	gender	AI	DS&BD	WT	IS
0	Yash	223101	male	45	65	77	84
6	Jay	223107	male	67	53	73	66
8	Hardik	223109	male	37	42	44	45
10	Ronak	223111	male	56	49	59	36
16	Kaushik	223117	male	55	74	97	98
17	Smit	223118	male	52	6	66	93
22	Kishan	223123	male	45	11	69	10
23	Akshar	223124	male	25	4	97	58
24	Akshay	223125	male	95	0	89	4
28	Mihir	223129	male	85	55	84	42
30	Moxil	223131	male	68	0	4	28
36	Manoj	223137	male	35	50	25	70
37	Raghav	223138	male	56	16	60	45
38	Gopal	223139	male	68	13	77	92
40	Akshay	223141	male	67	99	11	64
44	Prashant	223145	male	92	42	25	4
47	Bhavik	223148	male	76	64	72	47
48	Manthan	223149	male	65	76	16	92
50	Darpit	223151	male	93	59	5	25
51	Harsh	223152	male	92	73	81	91
52	Kashyap	223153	male	51	96	50	10
53	Bhautik	223154	male	62	6	39	99
54	Dhruv	223155	male	42	33	51	55
55	Ishva	223156	male	78	40	33	51
56	Mitesh	223157	male	54	11	9	34
57	Denish	223158	male	65	88	55	32
58	Abhi	223159	male	62	4	37	54
59	Jenish	223160	male	41	50	95	99
65	Nevil	223166	male	65	21	53	19
66	Krishna	223167	male	75	67	2	71

In [50]:

df4.mean()

Out[50]:

	Roll no	AI	DS&BD	WT	IS
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gender

female	223129.675676	65.891892	49.756757	49.108108	57.756757
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male	223139.333333	62.300000	42.233333	51.833333	53.933333
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In [52]: df4.std()

Out[52]:

	Roll no	AI	DS&BD	WT	IS
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gender

female	19.042429	24.978640	27.173726	26.416308	27.939822
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male	18.990621	18.283495	30.392471	29.914918	30.317781
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In [59]: a=np.percentile(df3['WT'],50)

a

Out[59]: 51.0

In []: