

In [1]:

```
import pandas as pd
import numpy as np
import seaborn as sb
```

In [3]:

```
df=pd.read_csv(r"C:\Users\GAYATRI\Downloads\student_data.csv")  
df
```

Out[3]:

	rollno	Maths	Physics	Chemistry	Result	Total	Percentage	Garde
0	0	7	5	10	NaN	20	22.000000	Fail
1	1	72	82	77	1.0	231	2.000000	Pass
2	2	97	18	13	0.0	128	42.666667	Pass
3	3	8	42	37	0.0	87	29.000000	Fail
4	4	32	25	20	0.0	77	25.666667	Fail
5	5	15	73	68	NaN	156	52.000000	Pass
6	6	63	67	62	1.0	192	64.000000	Pass
7	7	97	70	65	1.0	330	97.333000	Pass
8	8	57	93	88	1.0	238	79.333333	Pass
9	9	60	58	53	1.0	171	57.000000	Pass
10	10	83	36	31	0.0	150	50.000000	Pass
11	11	48	22	17	0.0	87	29.000000	Fail
12	12	100	72	67	1.0	239	79.666667	Pass
13	13	26	13	8	0.0	47	15.666667	Fail
14	14	12	59	54	0.0	125	41.666667	Pass
15	15	62	65	60	1.0	187	62.333333	Pass
16	16	3	87	82	0.0	172	57.333333	Pass
17	17	49	10	5	0.0	64	21.333333	Fail
18	18	55	67	94	1.0	216	72.000000	Pass
19	19	77	44	62	1.0	183	61.000000	Pass
20	20	97	39	39	0.0	175	58.333333	Pass
21	21	98	85	97	1.0	280	93.333333	Pass
22	22	10	10	10	0.0	30	19.000000	Fail
23	23	89	50	80	1.0	219	73.000000	Pass
24	24	57	13	18	0.0	88	29.333333	Fail
25	25	34	12	45	0.0	91	30.333333	Fail
26	26	92	13	8	0.0	113	37.666667	Pass
27	27	29	93	7	0.0	129	43.000000	Pass
28	28	75	79	8	0.0	162	54.000000	Pass
29	29	13	11	88	0.0	112	37.333333	Pass
30	30	40	58	74	1.0	172	57.333333	Pass
31	31	3	37	6	0.0	46	15.333333	Fail
32	32	2	64	53	0.0	119	39.666667	Pass
33	33	3	13	92	0.0	108	36.000000	Pass
34	34	83	77	32	0.0	192	10.000000	Pass
35	35	69	38	59	NaN	166	55.333333	Pass
36	36	1	66	97	0.0	164	54.666667	Pass

	rollno	Maths	Physics	Chemistry	Result	Total	Percentage	Garde
37	37	48	73	8	0.0	129	43.000000	Pass
38	38	87	80	72	1.0	239	79.666667	Pass
39	39	13	2	0	0.0	15	33.000000	Fail
40	40	54	54	61	1.0	169	56.333333	Pass
41	41	92	39	68	0.0	199	66.333333	Pass
42	42	3	38	75	NaN	116	38.666667	Pass
43	43	67	68	34	0.0	169	56.333333	Pass
44	44	28	47	49	NaN	124	41.333333	Pass
45	45	97	12	34	NaN	143	47.666667	Pass
46	46	56	63	91	1.0	210	70.000000	Pass
47	47	63	81	33	0.0	177	59.000000	Pass
48	48	70	92	63	1.0	225	100.000000	Pass

In [4]:

df.describe()

Out[4]:

	rollno	Maths	Physics	Chemistry	Result	Total	Percentage
count	49.000000	49.000000	49.000000	49.000000	43.000000	49.000000	49.000000
mean	24.000000	50.938776	49.285714	48.448980	0.372093	150.632653	48.897952
std	14.28869	32.973732	27.858272	30.142758	0.489083	67.487867	22.481274
min	0.000000	1.000000	2.000000	0.000000	0.000000	15.000000	2.000000
25%	12.000000	15.000000	22.000000	18.000000	0.000000	112.000000	33.000000
50%	24.000000	56.000000	54.000000	53.000000	0.000000	162.000000	50.000000
75%	36.000000	77.000000	72.000000	72.000000	1.000000	192.000000	61.000000
max	48.000000	100.000000	93.000000	97.000000	1.000000	330.000000	100.000000

In [5]:

df.isnull().sum()

Out[5]:

```

rollno      0
Maths       0
Physics     0
Chemistry   0
Result      6
Total       0
Percentage  0
Garde       0
dtype: int64

```

In [7]:

```
df['Result']=df['Result'].fillna(0)  
df
```

Out[7]:

	rollno	Maths	Physics	Chemistry	Result	Total	Percentage	Garde
0	0	7	5	10	0.0	20	22.000000	Fail
1	1	72	82	77	1.0	231	2.000000	Pass
2	2	97	18	13	0.0	128	42.666667	Pass
3	3	8	42	37	0.0	87	29.000000	Fail
4	4	32	25	20	0.0	77	25.666667	Fail
5	5	15	73	68	0.0	156	52.000000	Pass
6	6	63	67	62	1.0	192	64.000000	Pass
7	7	97	70	65	1.0	330	97.333000	Pass
8	8	57	93	88	1.0	238	79.333333	Pass
9	9	60	58	53	1.0	171	57.000000	Pass
10	10	83	36	31	0.0	150	50.000000	Pass
11	11	48	22	17	0.0	87	29.000000	Fail
12	12	100	72	67	1.0	239	79.666667	Pass
13	13	26	13	8	0.0	47	15.666667	Fail
14	14	12	59	54	0.0	125	41.666667	Pass
15	15	62	65	60	1.0	187	62.333333	Pass
16	16	3	87	82	0.0	172	57.333333	Pass
17	17	49	10	5	0.0	64	21.333333	Fail
18	18	55	67	94	1.0	216	72.000000	Pass
19	19	77	44	62	1.0	183	61.000000	Pass
20	20	97	39	39	0.0	175	58.333333	Pass
21	21	98	85	97	1.0	280	93.333333	Pass
22	22	10	10	10	0.0	30	19.000000	Fail
23	23	89	50	80	1.0	219	73.000000	Pass
24	24	57	13	18	0.0	88	29.333333	Fail
25	25	34	12	45	0.0	91	30.333333	Fail
26	26	92	13	8	0.0	113	37.666667	Pass
27	27	29	93	7	0.0	129	43.000000	Pass
28	28	75	79	8	0.0	162	54.000000	Pass
29	29	13	11	88	0.0	112	37.333333	Pass
30	30	40	58	74	1.0	172	57.333333	Pass
31	31	3	37	6	0.0	46	15.333333	Fail
32	32	2	64	53	0.0	119	39.666667	Pass
33	33	3	13	92	0.0	108	36.000000	Pass
34	34	83	77	32	0.0	192	10.000000	Pass
35	35	69	38	59	0.0	166	55.333333	Pass
36	36	1	66	97	0.0	164	54.666667	Pass

	rollno	Maths	Physics	Chemistry	Result	Total	Percentage	Garde
37	37	48	73	8	0.0	129	43.000000	Pass
38	38	87	80	72	1.0	239	79.666667	Pass
39	39	13	2	0	0.0	15	33.000000	Fail
40	40	54	54	61	1.0	169	56.333333	Pass
41	41	92	39	68	0.0	199	66.333333	Pass
42	42	3	38	75	0.0	116	38.666667	Pass
43	43	67	68	34	0.0	169	56.333333	Pass
44	44	28	47	49	0.0	124	41.333333	Pass
45	45	97	12	34	0.0	143	47.666667	Pass
46	46	56	63	91	1.0	210	70.000000	Pass
47	47	63	81	33	0.0	177	59.000000	Pass
48	48	70	92	63	1.0	225	100.000000	Pass

In [8]:

```
df.isnull().sum()
```

Out[8]:

```
rollno      0
Maths       0
Physics     0
Chemistry   0
Result      0
Total       0
Percentage  0
Garde       0
dtype: int64
```

In [9]:

```
df.dtypes
```

Out[9]:

```
rollno      int64
Maths       int64
Physics     int64
Chemistry   int64
Result      float64
Total       int64
Percentage  float64
Garde       object
dtype: object
```

In [10]:

```
df['rollno']=df['rollno'].astype('int64')
df['Maths']=df['Maths'].astype('int64')
df['Physics']=df['Physics'].astype('int64')
df['Chemistry']=df['Chemistry'].astype('int64')
df['Result']=df['Result'].astype('int64')
df['Total']=df['Total'].astype('int64')
df['Percentage']=df['Percentage'].astype('int64')
```

In [11]:

```
df.dtypes
```

Out[11]:

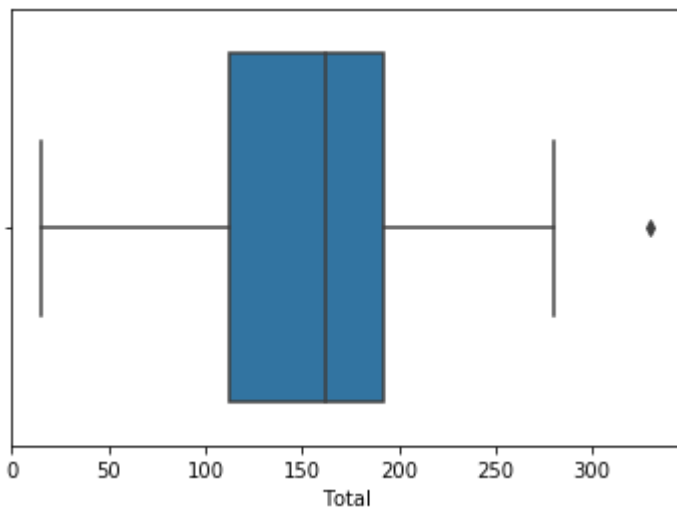
```
rollno      int64
Maths       int64
Physics     int64
Chemistry   int64
Result      int64
Total       int64
Percentage  int64
Garde       object
dtype: object
```

In [12]:

```
sb.boxplot(df['Total'])
```

Out[12]:

<matplotlib.axes._subplots.AxesSubplot at 0x96b6dd0>



In [13]:

```
df.drop(7, inplace = True)  
df
```

Out[13]:

	rollno	Maths	Physics	Chemistry	Result	Total	Percentage	Garde
0	0	7	5	10	0	20	22	Fail
1	1	72	82	77	1	231	2	Pass
2	2	97	18	13	0	128	42	Pass
3	3	8	42	37	0	87	29	Fail
4	4	32	25	20	0	77	25	Fail
5	5	15	73	68	0	156	52	Pass
6	6	63	67	62	1	192	64	Pass
8	8	57	93	88	1	238	79	Pass
9	9	60	58	53	1	171	57	Pass
10	10	83	36	31	0	150	50	Pass
11	11	48	22	17	0	87	29	Fail
12	12	100	72	67	1	239	79	Pass
13	13	26	13	8	0	47	15	Fail
14	14	12	59	54	0	125	41	Pass
15	15	62	65	60	1	187	62	Pass
16	16	3	87	82	0	172	57	Pass
17	17	49	10	5	0	64	21	Fail
18	18	55	67	94	1	216	72	Pass
19	19	77	44	62	1	183	61	Pass
20	20	97	39	39	0	175	58	Pass
21	21	98	85	97	1	280	93	Pass
22	22	10	10	10	0	30	19	Fail
23	23	89	50	80	1	219	73	Pass
24	24	57	13	18	0	88	29	Fail
25	25	34	12	45	0	91	30	Fail
26	26	92	13	8	0	113	37	Pass
27	27	29	93	7	0	129	43	Pass
28	28	75	79	8	0	162	54	Pass
29	29	13	11	88	0	112	37	Pass
30	30	40	58	74	1	172	57	Pass
31	31	3	37	6	0	46	15	Fail
32	32	2	64	53	0	119	39	Pass
33	33	3	13	92	0	108	36	Pass
34	34	83	77	32	0	192	10	Pass
35	35	69	38	59	0	166	55	Pass
36	36	1	66	97	0	164	54	Pass
37	37	48	73	8	0	129	43	Pass

	rollno	Maths	Physics	Chemistry	Result	Total	Percentage	Garde
38	38	87	80	72	1	239	79	Pass
39	39	13	2	0	0	15	33	Fail
40	40	54	54	61	1	169	56	Pass
41	41	92	39	68	0	199	66	Pass
42	42	3	38	75	0	116	38	Pass
43	43	67	68	34	0	169	56	Pass
44	44	28	47	49	0	124	41	Pass
45	45	97	12	34	0	143	47	Pass
46	46	56	63	91	1	210	70	Pass
47	47	63	81	33	0	177	59	Pass
48	48	70	92	63	1	225	100	Pass

In []: