

# pr-1

April 15, 2025

```
[2]: import pandas as pd
```

```
[3]: ssd1= pd.read_csv('StudentsPerformance_m.csv')
```

```
[4]: ssd1.columns
```

```
[4]: Index(['gender', 'race/ethnicity', 'parental level of education', 'lunch',  
        'test preparation course', 'math score', 'reading score',  
        'writing score'],  
        dtype='object')
```

```
[6]: ssd2= ssd1.head(50)
```

```
[8]: ssd2
```

```
[8]:
```

	gender	race/ethnicity	parental level of education	lunch	\
0	female	group B	bachelor's degree	standard	
1	female	group C	some college	standard	
2	female	group B	master's degree	standard	
3	male	group A	associate's degree	free/reduced	
4	male	group C	some college	standard	
5	female	group B	associate's degree	standard	
6	female	group B	some college	standard	
7	male	group B	some college	free/reduced	
8	male	group D	high school	free/reduced	
9	female	group B	high school	free/reduced	
10	male	group C	associate's degree	standard	
11	male	group D	associate's degree	standard	
12	female	group B	high school	standard	
13	male	group A	some college	standard	
14	female	group A	master's degree	standard	
15	female	group C	some high school	standard	
16	male	group C	high school	standard	
17	female	group B	some high school	free/reduced	
18	male	group C	master's degree	free/reduced	
19	female	group C	associate's degree	free/reduced	
20	male	group D	high school	standard	

21	female	group B	some college	free/reduced
22	male	group D	some college	standard
23	female	group C	some high school	standard
24	male	group D	bachelor's degree	free/reduced
25	male	group A	master's degree	free/reduced
26	male	group B	some college	standard
27	female	group C	bachelor's degree	standard
28	male	group C	high school	standard
29	female	group D	master's degree	standard
30	female	group D	some college	standard
31	female	group B	some college	standard
32	female	group E	master's degree	free/reduced
33	male	group D	some college	standard
34	male	group E	some college	standard
35	male	group E	associate's degree	standard
36	female	group D	associate's degree	standard
37	female	group D	some high school	free/reduced
38	female	group D	associate's degree	free/reduced
39	male	group B	associate's degree	free/reduced
40	male	group C	associate's degree	free/reduced
41	female	group C	associate's degree	standard
42	female	group B	associate's degree	standard
43	male	group B	some college	free/reduced
44	female	group E	associate's degree	free/reduced
45	male	group B	associate's degree	standard
46	female	group A	associate's degree	standard
47	female	group C	high school	standard
48	female	group D	associate's degree	free/reduced
49	male	group C	high school	standard

	test preparation course	math score	reading score	writing score
0	none	72.0	72.0	74.0
1	completed	69.0	90.0	88.0
2	none	90.0	95.0	93.0
3	none	47.0	57.0	44.0
4	none	76.0	78.0	75.0
5	none	71.0	83.0	78.0
6	completed	88.0	95.0	92.0
7	none	40.0	43.0	39.0
8	completed	64.0	64.0	67.0
9	none	38.0	60.0	50.0
10	none	58.0	54.0	52.0
11	none	40.0	52.0	43.0
12	none	65.0	81.0	73.0
13	completed	78.0	72.0	70.0
14	none	50.0	53.0	58.0
15	none	69.0	75.0	78.0

16	none	88.0	89.0	86.0
17	none	18.0	32.0	28.0
18	completed	46.0	42.0	46.0
19	none	54.0	58.0	61.0
20	none	66.0	69.0	63.0
21	completed	65.0	75.0	70.0
22	none	44.0	54.0	53.0
23	none	69.0	73.0	73.0
24	completed	74.0	71.0	80.0
25	none	73.0	74.0	72.0
26	none	69.0	54.0	55.0
27	none	67.0	69.0	75.0
28	none	70.0	70.0	65.0
29	none	62.0	70.0	75.0
30	none	69.0	74.0	74.0
31	none	63.0	65.0	61.0
32	none	56.0	72.0	65.0
33	none	40.0	42.0	38.0
34	none	97.0	87.0	82.0
35	completed	81.0	81.0	79.0
36	none	74.0	81.0	83.0
37	none	50.0	64.0	59.0
38	completed	75.0	90.0	88.0
39	none	57.0	56.0	57.0
40	none	55.0	61.0	54.0
41	none	58.0	73.0	68.0
42	none	53.0	58.0	65.0
43	completed	59.0	65.0	66.0
44	none	50.0	56.0	54.0
45	none	65.0	54.0	57.0
46	completed	55.0	65.0	62.0
47	none	66.0	71.0	76.0
48	completed	57.0	74.0	76.0
49	completed	82.0	84.0	82.0

```
[7]: vvk2.iloc[0:5]
```

```
[7]:  gender race/ethnicity parental level of education      lunch \
0  female      group B      bachelor's degree      standard
1  female      group C      some college      standard
2  female      group B      master's degree      standard
3   male      group A      associate's degree  free/reduced
4   male      group C      some college      standard

      test preparation course  math score  reading score  writing score
0                none      72.0      72.0      74.0
1      completed      69.0      90.0      88.0
```

2	none	90.0	95.0	93.0
3	none	47.0	57.0	44.0
4	none	76.0	78.0	75.0

```
[9]: ssd2.iloc[:, 0:2]
```

```
[9]:
gender race/ethnicity
0  female      group B
1  female      group C
2  female      group B
3   male      group A
4   male      group C
5  female      group B
6  female      group B
7   male      group B
8   male      group D
9  female      group B
10  male      group C
11  male      group D
12  female      group B
13  male      group A
14  female      group A
15  female      group C
16  male      group C
17  female      group B
18  male      group C
19  female      group C
20  male      group D
21  female      group B
22  male      group D
23  female      group C
24  male      group D
25  male      group A
26  male      group B
27  female      group C
28  male      group C
29  female      group D
30  female      group D
31  female      group B
32  female      group E
33  male      group D
34  male      group E
35  male      group E
36  female      group D
37  female      group D
38  female      group D
39  male      group B
```

40	male	group C
41	female	group C
42	female	group B
43	male	group B
44	female	group E
45	male	group B
46	female	group A
47	female	group C
48	female	group D
49	male	group C

```
[10]: ssd2.iloc[[0,3,6,24], [0,5,6]]
```

```
[10]:
```

	gender	math score	reading score
0	female	72.0	72.0
3	male	47.0	57.0
6	female	88.0	95.0
24	male	74.0	71.0

```
[11]: ssd2.iloc[0:5, 5:8]
```

```
[11]:
```

	math score	reading score	writing score
0	72.0	72.0	74.0
1	69.0	90.0	88.0
2	90.0	95.0	93.0
3	47.0	57.0	44.0
4	76.0	78.0	75.0

```
[12]: ssd2['lunch']
```

```
[12]:
```

0	standard
1	standard
2	standard
3	free/reduced
4	standard
5	standard
6	standard
7	free/reduced
8	free/reduced
9	free/reduced
10	standard
11	standard
12	standard
13	standard
14	standard
15	standard
16	standard

```

17    free/reduced
18    free/reduced
19    free/reduced
20        standard
21    free/reduced
22        standard
23        standard
24    free/reduced
25    free/reduced
26        standard
27        standard
28        standard
29        standard
30        standard
31        standard
32    free/reduced
33        standard
34        standard
35        standard
36        standard
37    free/reduced
38    free/reduced
39    free/reduced
40    free/reduced
41        standard
42        standard
43    free/reduced
44    free/reduced
45        standard
46        standard
47        standard
48    free/reduced
49        standard
Name: lunch, dtype: object

```

```
[13]: list1 = ['math score', 'reading score', 'writing score']
      ssd2[list1]
```

```
[13]:
```

	math score	reading score	writing score
0	72.0	72.0	74.0
1	69.0	90.0	88.0
2	90.0	95.0	93.0
3	47.0	57.0	44.0
4	76.0	78.0	75.0
5	71.0	83.0	78.0
6	88.0	95.0	92.0
7	40.0	43.0	39.0

8	64.0	64.0	67.0
9	38.0	60.0	50.0
10	58.0	54.0	52.0
11	40.0	52.0	43.0
12	65.0	81.0	73.0
13	78.0	72.0	70.0
14	50.0	53.0	58.0
15	69.0	75.0	78.0
16	88.0	89.0	86.0
17	18.0	32.0	28.0
18	46.0	42.0	46.0
19	54.0	58.0	61.0
20	66.0	69.0	63.0
21	65.0	75.0	70.0
22	44.0	54.0	53.0
23	69.0	73.0	73.0
24	74.0	71.0	80.0
25	73.0	74.0	72.0
26	69.0	54.0	55.0
27	67.0	69.0	75.0
28	70.0	70.0	65.0
29	62.0	70.0	75.0
30	69.0	74.0	74.0
31	63.0	65.0	61.0
32	56.0	72.0	65.0
33	40.0	42.0	38.0
34	97.0	87.0	82.0
35	81.0	81.0	79.0
36	74.0	81.0	83.0
37	50.0	64.0	59.0
38	75.0	90.0	88.0
39	57.0	56.0	57.0
40	55.0	61.0	54.0
41	58.0	73.0	68.0
42	53.0	58.0	65.0
43	59.0	65.0	66.0
44	50.0	56.0	54.0
45	65.0	54.0	57.0
46	55.0	65.0	62.0
47	66.0	71.0	76.0
48	57.0	74.0	76.0
49	82.0	84.0	82.0

```
[15]: ssd3=ssd2.iloc[0:50,0:3]
```

```
[16]: ssd2.iloc[0:8,0:4]
```

```
[16]: gender race/ethnicity parental level of education      lunch
0  female      group B      bachelor's degree      standard
1  female      group C      some college      standard
2  female      group B      master's degree      standard
3   male      group A      associate's degree  free/reduced
4   male      group C      some college      standard
5  female      group B      associate's degree  standard
6  female      group B      some college      standard
7   male      group B      some college  free/reduced
```

```
[22]: vvk2 =vvk2.drop('reading score',axis=1)
```

```
[23]: vvk2
```

```
[23]: gender race/ethnicity parental level of education      lunch  \
0  female      group B      bachelor's degree      standard
1  female      group C      some college      standard
2  female      group B      master's degree      standard
3   male      group A      associate's degree  free/reduced
4   male      group C      some college      standard
5  female      group B      associate's degree  standard
6  female      group B      some college      standard
7   male      group B      some college  free/reduced
8   male      group D      high school  free/reduced
9  female      group B      high school  free/reduced
10  male      group C      associate's degree  standard
11  male      group D      associate's degree  standard
12 female      group B      high school      standard
13  male      group A      some college      standard
14 female      group A      master's degree  standard
15 female      group C      some high school  standard
16  male      group C      high school      standard
17 female      group B      some high school  free/reduced
18  male      group C      master's degree  free/reduced
19 female      group C      associate's degree  free/reduced
20  male      group D      high school      standard
21 female      group B      some college  free/reduced
22  male      group D      some college      standard
23 female      group C      some high school  standard
24  male      group D      bachelor's degree  free/reduced
25  male      group A      master's degree  free/reduced
26  male      group B      some college      standard
27 female      group C      bachelor's degree  standard
28  male      group C      high school      standard
29 female      group D      master's degree  standard
30 female      group D      some college      standard
31 female      group B      some college      standard
```



32	female	group E	master's degree	free/reduced
33	male	group D	some college	standard
34	male	group E	some college	standard
35	male	group E	associate's degree	standard
36	female	group D	associate's degree	standard
37	female	group D	some high school	free/reduced
38	female	group D	associate's degree	free/reduced
39	male	group B	associate's degree	free/reduced
40	male	group C	associate's degree	free/reduced
41	female	group C	associate's degree	standard
42	female	group B	associate's degree	standard
43	male	group B	some college	free/reduced
44	female	group E	associate's degree	free/reduced
45	male	group B	associate's degree	standard
46	female	group A	associate's degree	standard
47	female	group C	high school	standard
48	female	group D	associate's degree	free/reduced
49	male	group C	high school	standard

	test preparation course	math score	writing score
0	none	72.0	74.0
1	completed	69.0	88.0
2	none	90.0	93.0
3	none	47.0	44.0
4	none	76.0	75.0
5	none	71.0	78.0
6	completed	88.0	92.0
7	none	40.0	39.0
8	completed	64.0	67.0
9	none	38.0	50.0
10	none	58.0	52.0
11	none	40.0	43.0
12	none	65.0	73.0
13	completed	78.0	70.0
14	none	50.0	58.0
15	none	69.0	78.0
16	none	88.0	86.0
17	none	18.0	28.0
18	completed	46.0	46.0
19	none	54.0	61.0
20	none	66.0	63.0
21	completed	65.0	70.0
22	none	44.0	53.0
23	none	69.0	73.0
24	completed	74.0	80.0
25	none	73.0	72.0
26	none	69.0	55.0

27	none	67.0	75.0
28	none	70.0	65.0
29	none	62.0	75.0
30	none	69.0	74.0
31	none	63.0	61.0
32	none	56.0	65.0
33	none	40.0	38.0
34	none	97.0	82.0
35	completed	81.0	79.0
36	none	74.0	83.0
37	none	50.0	59.0
38	completed	75.0	88.0
39	none	57.0	57.0
40	none	55.0	54.0
41	none	58.0	68.0
42	none	53.0	65.0
43	completed	59.0	66.0
44	none	50.0	54.0
45	none	65.0	57.0
46	completed	55.0	62.0
47	none	66.0	76.0
48	completed	57.0	76.0
49	completed	82.0	82.0

```
[31]: vvk2['lunch']=vvk2['lunch'].map({'full-lunch':0,'mid-lunch':1,'compact':
    ↪2,'sub-compact':3 })
```

```
[32]: vvk2['lunch'].value_counts()
```

```
[32]: Series([], Name: count, dtype: int64)
```

```
[33]: vvk2.shape
```

```
[33]: (50, 7)
```

```
[34]: vvk2.describe()
```

```
[34]:
```

	lunch	math score	writing score
count	0.0	50.000000	50.000000
mean	NaN	62.840000	66.440000
std	NaN	15.163544	14.785763
min	NaN	18.000000	28.000000
25%	NaN	54.250000	57.000000
50%	NaN	65.000000	67.500000
75%	NaN	71.750000	76.000000
max	NaN	97.000000	93.000000

[ ]: