u3yi0mdef

February 17, 2025

```
import pandas as pd
     import numpy as np
    df=pd.read_csv("student.csv")
[2]:
[3]: df
[3]:
         maths_score reading_score
                                       writing_score placement_score
                                                                           club_join_year
                                                                                      2021
     0
                   78
                                   63
                                                  67.0
                                                                       68
     1
                   67
                                   16
                                                  73.0
                                                                       63
                                                                                      2019
     2
                   62
                                   78
                                                  60.0
                                                                       63
                                                                                      2021
     3
                   73
                                   69
                                                  69.0
                                                                       66
                                                                                       2021
     4
                   67
                                                                                       2020
                                   na
                                                  77.0
                                                                       71
     5
                   68
                                   70
                                                  64.0
                                                                       69
                                                                                       2018
     6
                   79
                                   64
                                                  72.0
                                                                       73
                                                                                       2020
     7
                   78
                                   70
                                                  78.0
                                                                       64
                                                                                       2021
     8
                  NaN
                                   67
                                                  75.0
                                                                       62
                                                                                       2020
     9
                   72
                                   80
                                                                       69
                                                                                      2020
                                                  79.0
                                   70
                                                                       72
     10
                   Na
                                                  68.0
                                                                                       2019
     11
                   65
                                   79
                                                  69.0
                                                                       75
                                                                                      2019
                                                                       75
     12
                   62
                                   74
                                                  80.0
                                                                                       2018
     13
                   66
                                   63
                                                   NaN
                                                                       74
                                                                                      2020
     14
                   76
                                                  60.0
                                                                       64
                                                                                       2018
                                   60
     15
                   70
                                   61
                                                  61.0
                                                                       63
                                                                                      2021
     16
                                   69
                                                                       74
                                                                                      2020
                   72
                                                  65.0
                                   76
     17
                   80
                                                  74.0
                                                                       78
                                                                                       2020
     18
                   65
                                   70
                                                  63.0
                                                                       76
                                                                                      2019
     19
                   71
                                   65
                                                                                       2019
                                                  68.0
                                                                       na
     20
                   68
                                   65
                                                  68.0
                                                                       75
                                                                                       2019
     21
                   77
                                   79
                                                  66.0
                                                                       62
                                                                                       2020
     22
                                   76
                                                                       74
                                                                                       2020
                   68
                                                  80.0
     23
                   80
                                   71
                                                  79.0
                                                                       78
                                                                                      2020
     24
                   62
                                   71
                                                                                      2018
                                                  62.0
                                                                       60
     25
                   62
                                   78
                                                  66.0
                                                                       78
                                                                                      2018
     26
                   66
                                   77
                                                  68.0
                                                                       69
                                                                                       2020
     27
                   60
                                   75
                                                  77.0
                                                                       65
                                                                                       2021
```

	placement_offer_count	Gender
0	1	Female
1	1	Male
2	1	Male
3	1	Male
4	1	Male
5	1	Male
6	1	Male
7	1	Male
8	1	Male
9	1	Male
10	1	Male
11	2	Female
12	2	Female
13	1	Female
14	1	Female
15	1	Female
16	1	Female
17	2	Female
18	2	Female
19	3	Female
20	2	Female
21	1	Female
22	1	Male
23	2	Male
24	1	Male
25	2	Male
26	1	Female
27	1	Male

[4]: df.isnull()

[4]: maths_score reading_score writing_score placement_score \ 0 False False False False 1 False False False False 2 False False False False 3 False False False False 4 False False False False 5 False False False False 6 False False False False 7 False False False False 8 False False True False 9 False False False False 10 False False False False 11 False False False False 12 False False False False 13 False False True False

14	False	False	Fa	lse	False
15	False	False	Fa	lse	False
16	False	False	Fa	lse	False
17	False	False	Fa	lse	False
18	False	False	Fa	lse	False
19	False	False	Fa	lse	False
20	False	False	Fa	lse	False
21	False	False	Fa	lse	False
22	False	False	Fa	lse	False
23	False	False	Fa	lse	False
24	False	False	Fa	lse	False
25	False	False	Fa	lse	False
26	False	False	Fa	lse	False
27	False	False	Fa	lse	False
	club_join_year	placement_offer	r_count	Gender	
0	False	- -	- False	False	
1	False		False	False	
2	False		False	False	
3	False		False	False	
4	False		False	False	
5	False		False	False	
6	False		False	False	
7	False		False	False	
8	False		False	False	
9	False		False	False	
10	False		False	False	
11	False		False	False	
12	False		False	False	
13	False		False	False	
14	False		False	False	
15	False		False	False	
16	False		False	False	
17	False		False	False	
18	False		False	False	
19	False		False	False	
20	False		False	False	
21	False		False	False	
22	False		False	False	
23	False		False	False	
24	False		False	False	
25	False		False	False	
26	False		False	False	
27	False		False	False	

```
[5]:
       maths_score reading_score writing_score placement_score club_join_year \
                                               75.0
                                                                                  2020
     8
                NaN
                                                                   62
        placement_offer_count Gender
     8
                                   Male
[6]: df.notnull()
[6]:
         maths_score
                       reading_score writing_score placement_score \
                 True
                                 True
                                                  True
                                                                     True
     1
                 True
                                 True
                                                  True
                                                                     True
     2
                 True
                                 True
                                                  True
                                                                     True
     3
                 True
                                                  True
                                 True
                                                                     True
     4
                 True
                                 True
                                                  True
                                                                     True
     5
                 True
                                 True
                                                  True
                                                                     True
     6
                 True
                                 True
                                                  True
                                                                     True
     7
                 True
                                 True
                                                  True
                                                                     True
     8
                False
                                 True
                                                  True
                                                                     True
     9
                 True
                                 True
                                                  True
                                                                     True
     10
                 True
                                 True
                                                  True
                                                                     True
                 True
     11
                                 True
                                                  True
                                                                     True
     12
                 True
                                 True
                                                  True
                                                                     True
     13
                 True
                                 True
                                                 False
                                                                     True
     14
                 True
                                 True
                                                  True
                                                                     True
     15
                 True
                                 True
                                                  True
                                                                     True
     16
                 True
                                 True
                                                  True
                                                                     True
     17
                 True
                                 True
                                                  True
                                                                     True
     18
                 True
                                 True
                                                  True
                                                                     True
     19
                 True
                                 True
                                                  True
                                                                     True
     20
                 True
                                 True
                                                  True
                                                                     True
     21
                 True
                                 True
                                                  True
                                                                     True
     22
                 True
                                 True
                                                  True
                                                                     True
     23
                 True
                                 True
                                                  True
                                                                     True
     24
                 True
                                 True
                                                  True
                                                                     True
     25
                 True
                                 True
                                                  True
                                                                     True
     26
                                 True
                 True
                                                  True
                                                                     True
     27
                 True
                                 True
                                                  True
                                                                     True
         club_join_year placement_offer_count Gender
     0
                    True
                                              True
                                                      True
     1
                    True
                                              True
                                                      True
     2
                    True
                                              True
                                                      True
     3
                    True
                                             True
                                                      True
     4
                    True
                                             True
                                                      True
     5
                    True
                                                      True
                                              True
     6
                    True
                                             True
                                                      True
     7
                    True
                                              True
                                                      True
```

```
8
               True
                                        True
                                                 True
9
               True
                                        True
                                                 True
10
               True
                                        True
                                                 True
               True
                                        True
                                                 True
11
12
               True
                                        True
                                                 True
13
               True
                                        True
                                                 True
14
               True
                                        True
                                                 True
15
               True
                                        True
                                                 True
16
               True
                                        True
                                                 True
17
               True
                                        True
                                                 True
                                        True
18
               True
                                                 True
19
               True
                                        True
                                                 True
20
               True
                                        True
                                                 True
21
               True
                                        True
                                                 True
22
               True
                                        True
                                                 True
23
               True
                                        True
                                                 True
24
               True
                                        True
                                                 True
25
               True
                                        True
                                                 True
26
               True
                                        True
                                                 True
27
               True
                                        True
                                                 True
```

[8]: series1 = pd.notnull(df["maths_score"]) df[series1]

[8]:	maths score	reading score	uriting score	placement_score	club ioin wear	\
0	78	63	67.0	68	2021	`
1						
	67	16	73.0	63	2019	
2	62	78	60.0	63	2021	
3	73	69	69.0	66	2021	
4	67	na	77.0	71	2020	
5	68	70	64.0	69	2018	
6	79	64	72.0	73	2020	
7	78	70	78.0	64	2021	
9	72	80	79.0	69	2020	
10) Na	70	68.0	72	2019	
11	. 65	79	69.0	75	2019	
12	2 62	74	80.0	75	2018	
13	66	63	NaN	74	2020	
14	1 76	60	60.0	64	2018	
15	70	61	61.0	63	2021	
16	72	69	65.0	74	2020	
17	7 80	76	74.0	78	2020	
18	65	70	63.0	76	2019	
19	71	65	68.0	na	2019	
20		65	68.0	75	2019	
21		79	66.0	62	2020	
22		76	80.0	74	2020	
22	. 00	10	00.0	1 1	2020	

```
24
                   62
                                  71
                                                62.0
                                                                    60
                                                                                   2018
                                  78
      25
                   62
                                                66.0
                                                                    78
                                                                                   2018
      26
                                  77
                                                68.0
                                                                    69
                   66
                                                                                   2020
      27
                   60
                                  75
                                                77.0
                                                                    65
                                                                                   2021
          placement_offer_count
                                   Gender
      0
                                1
                                   Female
      1
                                1
                                     Male
      2
                                1
                                     Male
      3
                                1
                                     Male
      4
                                1
                                     Male
      5
                                     Male
                                1
      6
                                1
                                     Male
      7
                                1
                                     Male
      9
                                     Male
                                1
      10
                                     Male
                                1
                                2
                                   Female
      11
      12
                                   Female
      13
                                   Female
                                1
      14
                                1
                                   Female
      15
                                   Female
                                1
      16
                                1
                                   Female
      17
                                2
                                   Female
      18
                                2 Female
      19
                                   Female
                                3
      20
                                   Female
      21
                                1
                                   Female
      22
                                1
                                     Male
      23
                                2
                                     Male
      24
                                1
                                     Male
      25
                                2
                                     Male
      26
                                   Female
                                1
      27
                                     Male
                                1
[10]: from sklearn.preprocessing import LabelEncoder
      le = LabelEncoder()
      df['gender'] = le.fit_transform(df['Gender'])
      newdf=df
      df
[10]:
         maths_score reading_score
                                      writing_score placement_score
                                                                        club_join_year \
      0
                   78
                                  63
                                                67.0
                                                                    68
                                                                                   2021
      1
                   67
                                  16
                                                73.0
                                                                    63
                                                                                   2019
      2
                                  78
                                                60.0
                                                                    63
                   62
                                                                                   2021
      3
                   73
                                  69
                                                69.0
                                                                    66
                                                                                   2021
      4
                   67
                                                77.0
                                                                    71
                                                                                   2020
                                  na
```

79.0

5	68	70	64.0	69	2018
6	79	64	72.0	73	2020
7	78	70	78.0	64	2021
8	NaN	67	75.0	62	2020
9	72	80	79.0	69	2020
10	Na	70	68.0	72	2019
11	65	79	69.0	75	2019
12	62	74	80.0	75	2018
13	66	63	NaN	74	2020
14	76	60	60.0	64	2018
15	70	61	61.0	63	2021
16	72	69	65.0	74	2020
17	80	76	74.0	78	2020
18	65	70	63.0	76	2019
19	71	65	68.0	na	2019
20	68	65	68.0	75	2019
21	77	79	66.0	62	2020
22	68	76	80.0	74	2020
23	80	71	79.0	78	2020
24	62	71	62.0	60	2018
25	62	78	66.0	78	2018
26	66	77	68.0	69	2020
27	60	75	77.0	65	2021

	-1	C d	
_	placement_offer_count		gender
0	1	Female	0
1	1	Male	1
2	1	Male	1
3	1	Male	1
4	1	Male	1
5	1	Male	1
6	1	Male	1
7	1	Male	1
8	1	Male	1
9	1	Male	1
10	1	Male	1
11	2	Female	0
12	2	Female	0
13	1	Female	0
14	1	Female	0
15	1	Female	0
16	1	Female	0
17	2	Female	0
18	2	Female	0
19	3	Female	0
20	2	Female	0
21	1	Female	0

```
23
                                 2
                                       Male
                                                   1
      24
                                       Male
                                 1
                                                   1
                                 2
      25
                                       Male
                                                   1
      26
                                 1
                                    Female
                                                   0
      27
                                       Male
                                                   1
                                 1
[11]: missing_values = ["Na", "na"]
      df = pd.read_csv("student.csv", na_values = missing_values)
[11]:
           maths_score
                         reading_score
                                          writing_score
                                                          placement_score
                  78.0
                                                                       68.0
                                   63.0
                                                    67.0
                   67.0
                                   16.0
                                                    73.0
                                                                       63.0
      1
      2
                  62.0
                                   78.0
                                                    60.0
                                                                       63.0
      3
                  73.0
                                   69.0
                                                    69.0
                                                                       66.0
      4
                  67.0
                                                    77.0
                                                                       71.0
                                    NaN
      5
                   68.0
                                   70.0
                                                    64.0
                                                                       69.0
      6
                  79.0
                                   64.0
                                                                       73.0
                                                    72.0
      7
                   78.0
                                   70.0
                                                    78.0
                                                                       64.0
      8
                   NaN
                                   67.0
                                                    75.0
                                                                       62.0
      9
                  72.0
                                   80.0
                                                    79.0
                                                                       69.0
      10
                   NaN
                                   70.0
                                                    68.0
                                                                       72.0
      11
                   65.0
                                   79.0
                                                    69.0
                                                                       75.0
      12
                   62.0
                                   74.0
                                                    0.08
                                                                       75.0
      13
                   66.0
                                   63.0
                                                                       74.0
                                                     {\tt NaN}
                   76.0
                                                                       64.0
      14
                                   60.0
                                                    60.0
      15
                   70.0
                                   61.0
                                                    61.0
                                                                       63.0
      16
                   72.0
                                   69.0
                                                    65.0
                                                                       74.0
      17
                   0.08
                                   76.0
                                                    74.0
                                                                       78.0
      18
                  65.0
                                   70.0
                                                    63.0
                                                                       76.0
      19
                  71.0
                                   65.0
                                                    68.0
                                                                        NaN
      20
                   68.0
                                   65.0
                                                    68.0
                                                                       75.0
      21
                   77.0
                                   79.0
                                                    66.0
                                                                       62.0
                   68.0
      22
                                   76.0
                                                    80.0
                                                                       74.0
                                                                       78.0
      23
                   80.0
                                   71.0
                                                    79.0
                   62.0
      24
                                   71.0
                                                    62.0
                                                                       60.0
                   62.0
                                                                       78.0
      25
                                   78.0
                                                    66.0
      26
                   66.0
                                   77.0
                                                    68.0
                                                                       69.0
      27
                  60.0
                                   75.0
                                                                       65.0
                                                    77.0
                            placement_offer_count
                                                      Gender
           club_join_year
      0
                      2021
                                                      Female
                                                   1
                      2019
      1
                                                   1
                                                         Male
      2
                      2021
                                                   1
                                                         Male
      3
                      2021
                                                   1
                                                         Male
      4
                      2020
                                                   1
                                                         Male
```

1

Male

1

22

2018	1	Male
2020	1	Male
2021	1	Male
2020	1	Male
2020	1	Male
2019	1	Male
2019	2	Female
2018	2	Female
2020	1	Female
2018	1	Female
2021	1	Female
2020	1	Female
2020	2	Female
2019	2	Female
2019	3	Female
2019	2	Female
2020	1	Female
2020	1	Male
2020	2	Male
2018	1	Male
2018	2	Male
2020	1	Female
2021	1	Male
	2020 2021 2020 2020 2019 2019 2018 2020 2018 2021 2020 2019 2019 2019 2019 2019 2019	2020 1 2021 1 2020 1 2020 1 2019 2 2018 2 2020 1 2018 1 2021 1 2020 1 2020 2 2019 2 2019 2 2020 1 2020 1 2020 2 2018 1 2020 1 20218 1 2020 1 20218 1 2020 1 2020 1 2020 1 2020 2 2018 1 2020 1 2020 1

[12]: ndf=df ndf.fillna(0)

[12]:	maths_score	reading_score	writing_score	placement_score	\
0	78.0	63.0	67.0	68.0	`
1	67.0	16.0	73.0	63.0	
2	62.0	78.0	60.0	63.0	
3	73.0	69.0	69.0	66.0	
4	67.0	0.0	77.0	71.0	
5	68.0	70.0	64.0	69.0	
6	79.0	64.0	72.0	73.0	
7	78.0	70.0	78.0	64.0	
8	0.0	67.0	75.0	62.0	
9	72.0	80.0	79.0	69.0	
10	0.0	70.0	68.0	72.0	
11	65.0	79.0	69.0	75.0	
12	62.0	74.0	80.0	75.0	
13	66.0	63.0	0.0	74.0	
14	76.0	60.0	60.0	64.0	
15	70.0	61.0	61.0	63.0	
16	72.0	69.0	65.0	74.0	
17	80.0	76.0	74.0	78.0	
18	65.0	70.0	63.0	76.0	

```
19
                  71.0
                                  65.0
                                                   68.0
                                                                      0.0
      20
                  68.0
                                  65.0
                                                   68.0
                                                                     75.0
                  77.0
      21
                                  79.0
                                                   66.0
                                                                     62.0
      22
                  68.0
                                  76.0
                                                   0.08
                                                                     74.0
      23
                  80.0
                                  71.0
                                                   79.0
                                                                     78.0
      24
                  62.0
                                  71.0
                                                   62.0
                                                                     60.0
      25
                  62.0
                                  78.0
                                                   66.0
                                                                     78.0
      26
                  66.0
                                  77.0
                                                   68.0
                                                                     69.0
      27
                  60.0
                                  75.0
                                                   77.0
                                                                     65.0
          club_join_year placement_offer_count
      0
                     2021
                                                     Female
                     2019
                                                 1
                                                       Male
      1
      2
                     2021
                                                 1
                                                       Male
      3
                     2021
                                                 1
                                                       Male
      4
                     2020
                                                 1
                                                       Male
      5
                                                       Male
                     2018
                                                 1
      6
                     2020
                                                 1
                                                       Male
      7
                     2021
                                                 1
                                                       Male
      8
                     2020
                                                       Male
                                                 1
      9
                     2020
                                                 1
                                                       Male
      10
                     2019
                                                 1
                                                       Male
      11
                     2019
                                                 2 Female
      12
                     2018
                                                 2 Female
                     2020
                                                 1 Female
      13
      14
                     2018
                                                 1 Female
                                                 1 Female
      15
                     2021
      16
                     2020
                                                 1 Female
      17
                     2020
                                                    Female
                     2019
      18
                                                 2 Female
      19
                     2019
                                                 3
                                                    Female
      20
                     2019
                                                 2
                                                    Female
      21
                     2020
                                                    Female
                                                 1
      22
                                                       Male
                     2020
                                                 1
      23
                     2020
                                                 2
                                                       Male
      24
                     2018
                                                 1
                                                       Male
      25
                     2018
                                                 2
                                                       Male
                                                 1
      26
                     2020
                                                    Female
      27
                     2021
                                                 1
                                                       Male
[14]: m_v=df['maths_score'].mean()
      df['maths_score'].fillna(value=m_v, inplace=True)
[14]:
          maths_score reading_score writing_score placement_score \
      0
            78.000000
                                  63.0
                                                   67.0
                                                                     68.0
      1
             67.000000
                                  16.0
                                                  73.0
                                                                     63.0
```

2	62.000000	78.0	60.0	63.0
3	73.000000	69.0	69.0	66.0
4	67.000000	NaN	77.0	71.0
5	68.000000	70.0	64.0	69.0
6	79.000000	64.0	72.0	73.0
7	78.000000	70.0	78.0	64.0
8	69.769231	67.0	75.0	62.0
9	72.000000	80.0	79.0	69.0
10	69.769231	70.0	68.0	72.0
11	65.000000	79.0	69.0	75.0
12	62.000000	74.0	80.0	75.0
13	66.000000	63.0	NaN	74.0
14	76.000000	60.0	60.0	64.0
15	70.000000	61.0	61.0	63.0
16	72.000000	69.0	65.0	74.0
17	80.000000	76.0	74.0	78.0
18	65.000000	70.0	63.0	76.0
19	71.000000	65.0	68.0	NaN
20	68.000000	65.0	68.0	75.0
21	77.000000	79.0	66.0	62.0
22	68.000000	76.0	80.0	74.0
23	80.000000	71.0	79.0	78.0
24	62.000000	71.0	62.0	60.0
25	62.000000	78.0	66.0	78.0
26	66.000000	77.0	68.0	69.0
27	60.000000	75.0	77.0	65.0
	club_join_year	placement_offer	_count Gender	
0	2021		1 Female	
1	2019		1 Male	
2	2021		1 Male	
3	2021		1 Male	
4	2020		1 Male	
E	2018		1 Mala	

	club_join_year	placement_offer_count	Gender
0	2021	1	Female
1	2019	1	Male
2	2021	1	Male
3	2021	1	Male
4	2020	1	Male
5	2018	1	Male
6	2020	1	Male
7	2021	1	Male
8	2020	1	Male
9	2020	1	Male
10	2019	1	Male
11	2019	2	Female
12	2018	2	Female
13	2020	1	Female
14	2018	1	Female
15	2021	1	Female
16	2020	1	Female
17	2020	2	Female
18	2019	2	Female

```
2019
      19
                                                     Female
      20
                      2019
                                                     Female
      21
                      2020
                                                  1
                                                     Female
      22
                      2020
                                                  1
                                                        Male
      23
                      2020
                                                  2
                                                        Male
      24
                      2018
                                                        Male
                                                  1
      25
                      2018
                                                  2
                                                        Male
      26
                      2020
                                                  1
                                                     Female
      27
                      2021
                                                        Male
      ndf.replace(to_replace = np.nan, value = -99)
[15]:
          maths_score
                         reading_score
                                        writing_score
                                                          placement_score
      0
             78.000000
                                   63.0
                                                   67.0
                                                                      68.0
      1
             67.000000
                                   16.0
                                                   73.0
                                                                      63.0
             62.000000
      2
                                   78.0
                                                   60.0
                                                                      63.0
      3
             73.000000
                                   69.0
                                                   69.0
                                                                      66.0
      4
             67.000000
                                  -99.0
                                                   77.0
                                                                      71.0
      5
             68.000000
                                   70.0
                                                   64.0
                                                                      69.0
      6
                                                   72.0
                                                                      73.0
             79.000000
                                   64.0
      7
             78.000000
                                   70.0
                                                   78.0
                                                                      64.0
      8
             69.769231
                                   67.0
                                                   75.0
                                                                      62.0
      9
             72.000000
                                   80.0
                                                   79.0
                                                                      69.0
      10
             69.769231
                                   70.0
                                                   68.0
                                                                      72.0
      11
             65.000000
                                   79.0
                                                   69.0
                                                                      75.0
      12
             62.000000
                                   74.0
                                                   80.0
                                                                      75.0
      13
             66.000000
                                   63.0
                                                  -99.0
                                                                      74.0
      14
             76.000000
                                   60.0
                                                   60.0
                                                                      64.0
      15
             70.000000
                                   61.0
                                                   61.0
                                                                      63.0
      16
             72.000000
                                                   65.0
                                                                      74.0
                                   69.0
      17
             80.000000
                                   76.0
                                                   74.0
                                                                      78.0
                                                                      76.0
      18
             65.000000
                                   70.0
                                                   63.0
      19
                                   65.0
                                                   68.0
             71.000000
                                                                     -99.0
      20
             68.000000
                                   65.0
                                                   68.0
                                                                      75.0
      21
                                   79.0
                                                   66.0
                                                                      62.0
             77.000000
      22
             68.000000
                                   76.0
                                                   80.0
                                                                      74.0
      23
             80.000000
                                   71.0
                                                   79.0
                                                                      78.0
      24
             62.000000
                                   71.0
                                                   62.0
                                                                      60.0
      25
             62.000000
                                   78.0
                                                   66.0
                                                                      78.0
      26
             66.000000
                                   77.0
                                                   68.0
                                                                      69.0
      27
             60.000000
                                   75.0
                                                   77.0
                                                                      65.0
          club_join_year
                            placement_offer_count
                                                      Gender
      0
                      2021
                                                  1
                                                      Female
                      2019
                                                  1
                                                        Male
      1
      2
                      2021
                                                  1
                                                        Male
```

3

1

Male

3

2021

4	2020	1	Male
5	2018	1	Male
6	2020	1	Male
7	2021	1	Male
8	2020	1	Male
9	2020	1	Male
10	2019	1	Male
11	2019	2	Female
12	2018	2	Female
13	2020	1	Female
14	2018	1	Female
15	2021	1	Female
16	2020	1	Female
17	2020	2	Female
18	2019	2	Female
19	2019	3	Female
20	2019	2	Female
21	2020	1	Female
22	2020	1	Male
23	2020	2	Male
24	2018	1	Male
25	2018	2	Male
26	2020	1	Female
27	2021	1	Male

[16]: ndf.dropna()

[16]:	maths_score	reading_score	writing_score	placement_score	\
0	78.000000	63.0	67.0	68.0	
1	67.000000	16.0	73.0	63.0	
2	62.000000	78.0	60.0	63.0	
3	73.000000	69.0	69.0	66.0	
5	68.000000	70.0	64.0	69.0	
6	79.000000	64.0	72.0	73.0	
7	78.000000	70.0	78.0	64.0	
8	69.769231	67.0	75.0	62.0	
9	72.000000	80.0	79.0	69.0	
10	69.769231	70.0	68.0	72.0	
11	65.000000	79.0	69.0	75.0	
12	62.000000	74.0	80.0	75.0	
14	76.000000	60.0	60.0	64.0	
15	70.000000	61.0	61.0	63.0	
16	72.000000	69.0	65.0	74.0	
17	80.000000	76.0	74.0	78.0	
18	65.000000	70.0	63.0	76.0	
20	68.000000	65.0	68.0	75.0	
21	77.000000	79.0	66.0	62.0	

```
68.000000
                                   76.0
                                                   0.08
                                                                      74.0
      22
      23
             80.00000
                                   71.0
                                                   79.0
                                                                      78.0
                                   71.0
                                                                      60.0
      24
             62.000000
                                                   62.0
      25
             62.000000
                                   78.0
                                                   66.0
                                                                      78.0
      26
             66.000000
                                   77.0
                                                   68.0
                                                                      69.0
      27
             60.000000
                                   75.0
                                                   77.0
                                                                      65.0
                           placement_offer_count
          club_join_year
                                                     Gender
      0
                                                     Female
                      2021
      1
                      2019
                                                  1
                                                        Male
      2
                      2021
                                                  1
                                                        Male
      3
                      2021
                                                  1
                                                        Male
      5
                      2018
                                                        Male
                                                  1
      6
                      2020
                                                  1
                                                        Male
      7
                      2021
                                                  1
                                                        Male
      8
                      2020
                                                  1
                                                        Male
      9
                      2020
                                                  1
                                                        Male
      10
                      2019
                                                  1
                                                       Male
      11
                      2019
                                                     Female
      12
                      2018
                                                     Female
      14
                      2018
                                                  1
                                                     Female
      15
                      2021
                                                     Female
                                                  1
      16
                      2020
                                                  1 Female
      17
                      2020
                                                  2 Female
                                                  2 Female
      18
                      2019
      20
                                                  2
                                                     Female
                      2019
      21
                      2020
                                                     Female
      22
                      2020
                                                  1
                                                        Male
      23
                      2020
                                                  2
                                                        Male
      24
                      2018
                                                  1
                                                        Male
      25
                      2018
                                                  2
                                                        Male
      26
                      2020
                                                  1
                                                     Female
      27
                      2021
                                                  1
                                                        Male
[17]: ndf.dropna(how = 'all')
[17]:
          maths_score
                        reading_score writing_score placement_score \
             78.000000
                                   63.0
                                                   67.0
      0
                                                                      68.0
      1
             67.000000
                                   16.0
                                                   73.0
                                                                      63.0
      2
             62.000000
                                   78.0
                                                   60.0
                                                                      63.0
      3
             73.000000
                                   69.0
                                                   69.0
                                                                      66.0
      4
             67.000000
                                    NaN
                                                   77.0
                                                                      71.0
      5
             68.000000
                                   70.0
                                                   64.0
                                                                      69.0
      6
                                   64.0
             79.000000
                                                   72.0
                                                                      73.0
      7
             78.000000
                                   70.0
                                                   78.0
                                                                      64.0
      8
             69.769231
                                   67.0
                                                   75.0
                                                                      62.0
      9
             72.000000
                                   80.0
                                                   79.0
                                                                      69.0
```

10	69.769231	70.0	68.0	72.0
11	65.000000	79.0	69.0	75.0
12	62.000000	74.0	80.0	75.0
13	66.000000	63.0	NaN	74.0
14	76.000000	60.0	60.0	64.0
15	70.000000	61.0	61.0	63.0
16	72.000000	69.0	65.0	74.0
17	80.000000	76.0	74.0	78.0
18	65.000000	70.0	63.0	76.0
19	71.000000	65.0	68.0	NaN
20	68.000000	65.0	68.0	75.0
21	77.000000	79.0	66.0	62.0
22	68.000000	76.0	80.0	74.0
23	80.000000	71.0	79.0	78.0
24	62.000000	71.0	62.0	60.0
25	62.000000	78.0	66.0	78.0
26	66.000000	77.0	68.0	69.0
27	60.000000	75.0	77.0	65.0

	club_join_year	placement_offer_count	Gender
0	2021	pracement_orrer_count	Female
1	2019	1	Male
2	2019	1	Male
3	2021	1	Male
4	2020	1	Male
5	2018	1	Male
6	2020	1	Male
7	2021	1	Male
8	2020	1	Male
9	2020	1	Male
10	2019	1	Male
11	2019	2	Female
12	2018	2	Female
13	2020	1	Female
14	2018	1	Female
15	2021	1	Female
16	2020	1	Female
17	2020	2	Female
18	2019	2	Female
19	2019	3	Female
20	2019	2	Female
21	2020	1	Female
22	2020	1	Male
23	2020	2	Male
24	2018	1	Male
25	2018	2	Male
26	2020	1	Female

27 2021 1 Male

```
ndf.dropna(axis = 1)
[18]:
           maths_score
                         club_join_year placement_offer_count
                                                                    Gender
      0
             78.000000
                                    2021
                                                                 1
                                                                    Female
      1
             67.000000
                                    2019
                                                                 1
                                                                      Male
      2
             62.000000
                                    2021
                                                                 1
                                                                      Male
      3
                                                                 1
             73.000000
                                    2021
                                                                      Male
      4
             67.000000
                                    2020
                                                                 1
                                                                      Male
      5
             68.000000
                                    2018
                                                                 1
                                                                      Male
      6
             79.000000
                                    2020
                                                                 1
                                                                      Male
      7
             78.000000
                                    2021
                                                                 1
                                                                      Male
      8
                                    2020
                                                                 1
                                                                      Male
             69.769231
      9
             72.000000
                                    2020
                                                                 1
                                                                      Male
      10
                                    2019
                                                                 1
                                                                      Male
             69.769231
                                                                 2
                                                                    Female
      11
             65.000000
                                    2019
                                                                 2
                                                                    Female
      12
             62.000000
                                    2018
                                                                    Female
      13
             66.000000
                                    2020
                                                                    Female
      14
             76.000000
                                    2018
      15
             70.000000
                                    2021
                                                                 1
                                                                    Female
      16
                                    2020
                                                                 1
                                                                    Female
             72.000000
      17
             80.00000
                                    2020
                                                                 2
                                                                    Female
      18
                                                                 2
                                                                    Female
             65.000000
                                    2019
                                                                    Female
      19
             71.000000
                                    2019
                                                                 3
      20
                                                                 2
                                                                    Female
             68.000000
                                    2019
      21
             77.000000
                                    2020
                                                                 1
                                                                    Female
      22
             68.000000
                                    2020
                                                                 1
                                                                      Male
      23
             80.00000
                                    2020
                                                                 2
                                                                      Male
      24
                                                                 1
                                                                      Male
             62.000000
                                    2018
      25
             62.000000
                                    2018
                                                                 2
                                                                      Male
      26
             66.000000
                                                                 1
                                                                    Female
                                    2020
      27
             60.000000
                                                                 1
                                    2021
                                                                      Male
[19]: new_data = ndf.dropna(axis = 0, how = 'any')
      new_data
[19]:
                         reading_score
                                                          placement_score
           maths_score
                                         writing_score
                                                                      68.0
      0
             78.000000
                                   63.0
                                                   67.0
      1
             67.000000
                                                                      63.0
                                   16.0
                                                   73.0
      2
             62.000000
                                   78.0
                                                   60.0
                                                                      63.0
      3
             73.000000
                                   69.0
                                                   69.0
                                                                      66.0
      5
                                   70.0
                                                   64.0
                                                                      69.0
             68.000000
      6
             79.000000
                                   64.0
                                                   72.0
                                                                      73.0
      7
             78.000000
                                   70.0
                                                   78.0
                                                                      64.0
      8
             69.769231
                                   67.0
                                                   75.0
                                                                      62.0
      9
             72.000000
                                   80.0
                                                   79.0
                                                                      69.0
```

10	69.769231	70.0		8.0	72.0
11	65.000000	79.0		9.0	75.0
12	62.000000	74.0		0.0	75.0
14	76.000000	60.0		0.0	64.0
15	70.000000	61.0	6	1.0	63.0
16	72.000000	69.0	6	5.0	74.0
17	80.000000	76.0	7	4.0	78.0
18	65.000000	70.0	6	3.0	76.0
20	68.000000	65.0	6	8.0	75.0
21	77.000000	79.0	6	6.0	62.0
22	68.000000	76.0	8	0.0	74.0
23	80.000000	71.0	7	9.0	78.0
24	62.000000	71.0	6	2.0	60.0
25	62.000000	78.0	6	6.0	78.0
26	66.000000	77.0	6	8.0	69.0
27	60.000000	75.0	7	7.0	65.0
	club_join_year	placement_offer	_count	Gender	
0	2021		1	Female	
1	2019		1	Male	
2	2021		1	Male	
3	2021		1	Male	
5	2018		1	Male	
6	2020		1	Male	
7	2021		1	Male	
8	2020		1	Male	
9	2020		1	Male	
10	2019		1	Male	
11	2019		2	Female	
12	2018		2	Female	
14	2018		1	Female	
15	2021		1	Female	
16	2020		1	Female	
17	2020		2	Female	
18	2019		2	Female	
20	2019		2	Female	
21	2020		1	Female	
22	2020		1	Male	
23	2020		2	Male	
24	2018		1	Male	
25	2018		2	Male	
26	2020		1	Female	
27	2021		1	Male	

[]: