```
In [3]: import pandas as pd
          df=pd.read_csv("StudentsPerformance.csv")
         df
              gender race/ethnicity parental level of education
                                                              lunch test preparation course math score reading score writing score
                                                                                               72
                                                                                                            72
            0 female
                                         bachelor's degree
                                                            standard
                                                                                                                       74
                          group B
            1 female
                         group C
                                            some college
                                                            standard
                                                                              completed
                                                                                               69
                                                                                                            90
                                                                                                                        88
                                                                                                            95
           2 female
                          group B
                                          master's degree
                                                            standard
                                                                                   none
                                                                                               90
                                                                                                                        93
           3 male
                                                                                               47
                                                                                                            57
                          group A
                                        associate's degree free/reduced
                                                                                                                        44
                                                                                  none
                                                                                                            78
                                                                                               76
            4 male
                                             some college
                                                                                                                       75
                          group C
                                                            standard
                                                                                   none
          995 female
                                          master's degree
                                                            standard
                                                                                               88
                                                                                                            99
                                                                                                                        95
                          group E
                                                                              completed
                                                                                               62
                                                                                                            55
          996 male
                          group C
                                              high school free/reduced
                                                                                  none
                                                                                                                        55
                                                                                               59
                                                                                                            71
          997 female
                                              high school free/reduced
                                                                              completed
                                                                                                                        65
                          group C
          998 female
                                                                                               68
                                                                                                            78
                                                                                                                       77
                                             some college
                                                            standard
                                                                              completed
                          group D
                                             some college free/reduced
                                                                                               77
                                                                                                            86
                                                                                                                       86
          999 female
                          group D
                                                                                   none
         1000 rows × 8 columns
 In [5]: df.head()
            gender race/ethnicity parental level of education
                                                            lunch test preparation course math score reading score writing score
          0 female
                                                                                             72
                                                                                                          72
                                                                                                                      74
                        group B
                                       bachelor's degree
                                                          standard
                                                                                 none
          1 female
                                                          standard
                                                                            completed
                                                                                                          90
                                                                                                                      88
                        group C
                                           some college
                                                                                             90
                                                                                                          95
                                                                                                                      93
          2 female
                        group B
                                        master's degree
                                                          standard
                                                                                 none
                                      associate's degree free/reduced
                                                                                             47
                                                                                                          57
                                                                                                                      44
          3
              male
                        group A
                                                                                 none
                                                                                             76
                                                                                                         78
                                                                                                                      75
              male
                        group C
                                          some college
                                                          standard
                                                                                 none
 In [7]: df.tail()
               gender race/ethnicity parental level of education
                                                              lunch test preparation course math score reading score writing score
          995 female
                                          master's degree
                                                            standard
                                                                              completed
                                                                                               88
                                                                                                            99
                                                                                                                       95
                          group E
                                                                                  none
                                                                                               62
                                                                                                            55
          996
               male
                          group C
                                              high school free/reduced
                                                                                                                       55
          997 female
                                                                                               59
                                                                                                            71
                                                                                                                        65
                                              high school free/reduced
                                                                              completed
                          group C
          998 female
                                                                                               68
                                                                                                            78
                                                                                                                       77
                                             some college
                                                           standard
                                                                              completed
                          group D
                                                                                               77
                                                                                                            86
                                                                                                                       86
          999 female
                                             some college free/reduced
                          group D
                                                                                   none
 In [9]: df.shape
 Out[9]: (1000, 8)
In [11]: df.info()
        <class 'pandas.core.frame.DataFrame'>
        RangeIndex: 1000 entries, 0 to 999
        Data columns (total 8 columns):
         # Column
                                           Non-Null Count Dtype
                                        1000 non-null object
         0 gender
         1 race/ethnicity 1000 non-null object
         2 parental level of education 1000 non-null object
                           1000 non-null object
         4 test preparation course 1000 non-null object
         5 math score
                                           1000 non-null int64
                                           1000 non-null int64
         6 reading score
                                            1000 non-null int64
         7 writing score
        dtypes: int64(3), object(5)
        memory usage: 62.6+ KB
In [13]: df.describe()
                math score reading score writing score
          count 1000.00000
                           1000.000000 1000.000000
                  66.08900
                             69.169000
                                         68.054000
          mean
                  15.16308
                             14.600192
                                         15.195657
            std
                   0.00000
                             17.000000
                                          10.000000
          25%
                  57.00000
                             59.000000
                                         57.750000
           50%
                  66.00000
                             70.000000
                                          69.000000
                  77.00000
                             79.000000
                                         79.000000
          75%
           max 100.00000
                            100.000000
                                        100.000000
In [15]: df.isnull().sum()
Out[15]: gender
                                           0
          race/ethnicity
          parental level of education
          lunch
          test preparation course
          math score
          reading score
          writing score
          dtype: int64
In [17]: df.dropna()
Out[17]:
              gender race/ethnicity parental level of education
                                                              lunch test preparation course math score reading score writing score
            0 female
                                                                                               72
                                                                                                            72
                                                                                                                       74
                          group B
                                         bachelor's degree
                                                            standard
                                                                                   none
            1 female
                          group C
                                                            standard
                                                                              completed
                                                                                               69
                                                                                                            90
                                                                                                                        88
                                            some college
                                                                                               90
                                                                                                            95
                                                                                                                        93
            2 female
                          group B
                                          master's degree
                                                            standard
                                                                                  none
                                                                                               47
                                                                                                            57
            3 male
                                        associate's degree free/reduced
                                                                                                                        44
                          group A
                                                                                   none
                                                                                               76
                                                                                                            78
               male
                          group C
                                             some college
                                                            standard
                                                                                   none
                                                                                                                        75
          995 female
                          group E
                                          master's degree
                                                            standard
                                                                              completed
                                                                                                            99
                                                                                               62
                male
                          group C
                                              high school free/reduced
                                                                                                            55
                                                                                               59
                                                                                                            71
          997 female
                          group C
                                              high school free/reduced
                                                                              completed
                                                                                                                        65
          998 female
                                                                                               68
                                                                                                            78
                          group D
                                            some college
                                                           standard
                                                                              completed
                                                                                                                       77
          999 female
                                                                                               77
                                                                                                            86
                                                                                                                        86
                          group D
                                             some college free/reduced
                                                                                  none
         1000 rows × 8 columns
In [19]: df.fillna(0)
              gender race/ethnicity parental level of education
                                                              lunch test preparation course math score reading score writing score
                                         bachelor's degree
                                                                                               72
                                                                                                            72
                                                                                                                       74
            0 female
                                                            standard
                          group B
                                                                                   none
            1 female
                          group C
                                            some college
                                                            standard
                                                                              completed
                                          master's degree
                                                                                               90
                                                                                                            95
                                                                                                                        93
           2 female
                          group B
                                                            standard
                                                                                  none
            3 male
                          group A
                                        associate's degree free/reduced
                                                                                               47
                                                                                                            57
                                                                                   none
                                                                                                            78
                                                                                               76
                                                                                                                        75
           4 male
                          group C
                                            some college
                                                            standard
                                                                                   none
          995 female
                                          master's degree
                                                                                               88
                                                                                                            99
                                                                                                                        95
                          group E
                                                           standard
                                                                              completed
                                              high school free/reduced
                                                                                                            55
          996
                          group C
                                                                                  none
                                                                                               62
                                                                                                                        55
               male
          997 female
                                              high school free/reduced
                                                                              completed
                                                                                               59
                                                                                                            71
                                                                                                                        65
                          group C
          998 female
                          group D
                                             some college
                                                           standard
                                                                              completed
                                                                                               68
                                                                                                            78
                                                                                                                       77
                                            some college free/reduced
                                                                                               77
                                                                                                            86
                                                                                                                       86
          999 female
                          group D
                                                                                   none
         1000 rows × 8 columns
In [21]: df['math score'].mean()
Out[21]: 66.089
In [23]: df['reading score'].median()
Out[23]: 70.0
In [25]: df['writing score'].mode()
Out[25]: 0 74
          Name: writing score, dtype: int64
In [31]: df.dtypes
```

Out[31]: gender

race/ethnicity

math score
reading score

parental level of education

test preparation course

object

object

object object object

int64

int64

writing score dtype: object

int64

Tn []: