In [1]:
```
import pandas as pd
import numpy as np
df = pd.read_csv("https://raw.githubusercontent.com/datasciencedojo/datasets/
```

In [2]:
```
df1 = df[['PassengerId', 'Name', 'Sex', 'Pclass']]
df2 = df[['PassengerId', 'Embarked', 'Fare', 'Survived']]

print(df1.head())
print(df2.head())
```

```
   PassengerId                                                Name     Sex  \
0            1                             Braund, Mr. Owen Harris    male
1            2  Cumings, Mrs. John Bradley (Florence Briggs Th...  female
2            3                              Heikkinen, Miss. Laina  female
3            4        Futrelle, Mrs. Jacques Heath (Lily May Peel)  female
4            5                            Allen, Mr. William Henry    male

   Pclass
0       3
1       1
2       3
3       1
4       3
   PassengerId Embarked     Fare  Survived
0            1        S   7.2500         0
1            2        C  71.2833         1
2            3        S   7.9250         1
3            4        S  53.1000         1
4            5        S   8.0500         0
```

In [3]:
```
print(pd.merge(df1, df2, on='PassengerId'))
```

```
     PassengerId                                                Name     Sex
\
0              1                             Braund, Mr. Owen Harris    male
1              2  Cumings, Mrs. John Bradley (Florence Briggs Th...  female
2              3                              Heikkinen, Miss. Laina  female
3              4        Futrelle, Mrs. Jacques Heath (Lily May Peel)  female
4              5                            Allen, Mr. William Henry    male
..           ...                                                ...     ...
886          887                               Montvila, Rev. Juozas    male
887          888                        Graham, Miss. Margaret Edith  female
888          889            Johnston, Miss. Catherine Helen "Carrie"  female
889          890                               Behr, Mr. Karl Howell    male
890          891                                 Dooley, Mr. Patrick    male

     Pclass Embarked     Fare  Survived
0         3        S   7.2500         0
1         1        C  71.2833         1
2         3        S   7.9250         1
3         1        S  53.1000         1
4         3        S   8.0500         0
..      ...      ...      ...       ...
886       2        S  13.0000         0
887       1        S  30.0000         1
888       3        S  23.4500         0
889       1        C  30.0000         1
890       3        Q   7.7500         0

[891 rows x 7 columns]
```

In [4]:
```
print(pd.merge(df1, df2, on=['PassengerId']))
```

```
     PassengerId                                                 Name     Sex
\
0              1                              Braund, Mr. Owen Harris    male
1              2  Cumings, Mrs. John Bradley (Florence Briggs Th...  female
2              3                                 Heikkinen, Miss. Laina  female
3              4       Futrelle, Mrs. Jacques Heath (Lily May Peel)  female
4              5                             Allen, Mr. William Henry    male
..           ...                                                 ...     ...
886          887                                Montvila, Rev. Juozas    male
887          888                         Graham, Miss. Margaret Edith  female
888          889             Johnston, Miss. Catherine Helen "Carrie"  female
889          890                                Behr, Mr. Karl Howell    male
890          891                                  Dooley, Mr. Patrick    male

     Pclass Embarked     Fare  Survived
0         3        S   7.2500         0
1         1        C  71.2833         1
2         3        S   7.9250         1
3         1        S  53.1000         1
4         3        S   8.0500         0
..      ...      ...      ...       ...
886       2        S  13.0000         0
887       1        S  30.0000         1
888       3        S  23.4500         0
889       1        C  30.0000         1
890       3        Q   7.7500         0

[891 rows x 7 columns]
```

In [5]:
```
print(pd.merge(df1, df2, on='PassengerId', how='left'))
```

```
     PassengerId                                                 Name     Sex
\
0              1                              Braund, Mr. Owen Harris    male
1              2  Cumings, Mrs. John Bradley (Florence Briggs Th...  female
2              3                                 Heikkinen, Miss. Laina  female
3              4       Futrelle, Mrs. Jacques Heath (Lily May Peel)  female
4              5                             Allen, Mr. William Henry    male
..           ...                                                 ...     ...
886          887                                Montvila, Rev. Juozas    male
887          888                         Graham, Miss. Margaret Edith  female
888          889             Johnston, Miss. Catherine Helen "Carrie"  female
889          890                                Behr, Mr. Karl Howell    male
890          891                                  Dooley, Mr. Patrick    male

     Pclass Embarked     Fare  Survived
0         3        S   7.2500         0
1         1        C  71.2833         1
2         3        S   7.9250         1
3         1        S  53.1000         1
4         3        S   8.0500         0
..      ...      ...      ...       ...
886       2        S  13.0000         0
887       1        S  30.0000         1
888       3        S  23.4500         0
889       1        C  30.0000         1
890       3        Q   7.7500         0

[891 rows x 7 columns]
```

In [6]:
```
print(pd.merge(df1, df2, on='PassengerId', how='right'))
```

```
     PassengerId                                                 Name     Sex
\
0              1                              Braund, Mr. Owen Harris    male
1              2    Cumings, Mrs. John Bradley (Florence Briggs Th...  female
2              3                               Heikkinen, Miss. Laina  female
3              4         Futrelle, Mrs. Jacques Heath (Lily May Peel)  female
4              5                             Allen, Mr. William Henry    male
..           ...                                                 ...     ...
886          887                              Montvila, Rev. Juozas    male
887          888                       Graham, Miss. Margaret Edith  female
888          889            Johnston, Miss. Catherine Helen "Carrie"  female
889          890                              Behr, Mr. Karl Howell    male
890          891                                Dooley, Mr. Patrick    male

     Pclass Embarked     Fare  Survived
0         3        S   7.2500         0
1         1        C  71.2833         1
2         3        S   7.9250         1
3         1        S  53.1000         1
4         3        S   8.0500         0
..      ...      ...      ...       ...
886       2        S  13.0000         0
887       1        S  30.0000         1
888       3        S  23.4500         0
889       1        C  30.0000         1
890       3        Q   7.7500         0

[891 rows x 7 columns]
```

In [7]:
```
print(pd.merge(df1, df2, on='PassengerId', how='inner'))
```

```
     PassengerId                                                 Name     Sex
\
0              1                              Braund, Mr. Owen Harris    male
1              2    Cumings, Mrs. John Bradley (Florence Briggs Th...  female
2              3                               Heikkinen, Miss. Laina  female
3              4         Futrelle, Mrs. Jacques Heath (Lily May Peel)  female
4              5                             Allen, Mr. William Henry    male
..           ...                                                 ...     ...
886          887                              Montvila, Rev. Juozas    male
887          888                       Graham, Miss. Margaret Edith  female
888          889            Johnston, Miss. Catherine Helen "Carrie"  female
889          890                              Behr, Mr. Karl Howell    male
890          891                                Dooley, Mr. Patrick    male

     Pclass Embarked     Fare  Survived
0         3        S   7.2500         0
1         1        C  71.2833         1
2         3        S   7.9250         1
3         1        S  53.1000         1
4         3        S   8.0500         0
..      ...      ...      ...       ...
886       2        S  13.0000         0
887       1        S  30.0000         1
888       3        S  23.4500         0
889       1        C  30.0000         1
890       3        Q   7.7500         0

[891 rows x 7 columns]
```

In [8]:
```
print(pd.merge(df1, df2, on='PassengerId', how='outer'))
```

```
     PassengerId                                                 Name     Sex
\
0              1                              Braund, Mr. Owen Harris    male
1              2  Cumings, Mrs. John Bradley (Florence Briggs Th...  female
2              3                                 Heikkinen, Miss. Laina  female
3              4       Futrelle, Mrs. Jacques Heath (Lily May Peel)  female
4              5                             Allen, Mr. William Henry    male
..           ...                                                 ...     ...
886          887                                Montvila, Rev. Juozas    male
887          888                         Graham, Miss. Margaret Edith  female
888          889             Johnston, Miss. Catherine Helen "Carrie"  female
889          890                                Behr, Mr. Karl Howell    male
890          891                                  Dooley, Mr. Patrick    male

     Pclass Embarked     Fare  Survived
0         3        S   7.2500         0
1         1        C  71.2833         1
2         3        S   7.9250         1
3         1        S  53.1000         1
4         3        S   8.0500         0
..      ...      ...      ...       ...
886       2        S  13.0000         0
887       1        S  30.0000         1
888       3        S  23.4500         0
889       1        C  30.0000         1
890       3        Q   7.7500         0

[891 rows x 7 columns]
```

In [9]:
```
print(pd.concat([df1, df1]))
```

```
     PassengerId                                                 Name     Sex
\
0              1                              Braund, Mr. Owen Harris    male
1              2  Cumings, Mrs. John Bradley (Florence Briggs Th...  female
2              3                                 Heikkinen, Miss. Laina  female
3              4       Futrelle, Mrs. Jacques Heath (Lily May Peel)  female
4              5                             Allen, Mr. William Henry    male
..           ...                                                 ...     ...
886          887                                Montvila, Rev. Juozas    male
887          888                         Graham, Miss. Margaret Edith  female
888          889             Johnston, Miss. Catherine Helen "Carrie"  female
889          890                                Behr, Mr. Karl Howell    male
890          891                                  Dooley, Mr. Patrick    male

     Pclass
0         3
1         1
2         3
3         1
4         3
..      ...
886       2
887       1
888       3
889       1
890       3

[1782 rows x 4 columns]
```

In [10]:
```
print(pd.concat([df1, df1], keys=['A', 'B']))
```

```
       PassengerId                                               Name     Sex
\
A 0              1                            Braund, Mr. Owen Harris    male
  1              2  Cumings, Mrs. John Bradley (Florence Briggs Th...  female
  2              3                             Heikkinen, Miss. Laina  female
  3              4       Futrelle, Mrs. Jacques Heath (Lily May Peel)  female
  4              5                           Allen, Mr. William Henry    male
...            ...                                               ...     ...
B 886          887                              Montvila, Rev. Juozas    male
  887          888                       Graham, Miss. Margaret Edith  female
  888          889           Johnston, Miss. Catherine Helen "Carrie"  female
  889          890                              Behr, Mr. Karl Howell    male
  890          891                                Dooley, Mr. Patrick    male

       Pclass
A 0         3
  1         1
  2         3
  3         1
  4         3
...       ...
B 886       2
  887       1
  888       3
  889       1
  890       3

[1782 rows x 4 columns]
```

In [11]:
```
print(pd.concat([df1, df1], ignore_index=True))
```

```
      PassengerId                                               Name     Sex
\
0               1                            Braund, Mr. Owen Harris    male
1               2  Cumings, Mrs. John Bradley (Florence Briggs Th...  female
2               3                             Heikkinen, Miss. Laina  female
3               4       Futrelle, Mrs. Jacques Heath (Lily May Peel)  female
4               5                           Allen, Mr. William Henry    male
...           ...                                               ...     ...
1777          887                              Montvila, Rev. Juozas    male
1778          888                       Graham, Miss. Margaret Edith  female
1779          889           Johnston, Miss. Catherine Helen "Carrie"  female
1780          890                              Behr, Mr. Karl Howell    male
1781          891                                Dooley, Mr. Patrick    male

      Pclass
0          3
1          1
2          3
3          1
4          3
...      ...
1777       2
1778       1
1779       3
1780       1
1781       3

[1782 rows x 4 columns]
```

In [12]:
```
print(pd.concat([df1, df2], axis=1))
```

```
     PassengerId                                               Name     Sex
\
0              1                            Braund, Mr. Owen Harris    male
1              2  Cumings, Mrs. John Bradley (Florence Briggs Th...  female
2              3                             Heikkinen, Miss. Laina  female
3              4       Futrelle, Mrs. Jacques Heath (Lily May Peel)  female
4              5                           Allen, Mr. William Henry    male
..           ...                                                ...     ...
886          887                              Montvila, Rev. Juozas    male
887          888                       Graham, Miss. Margaret Edith  female
888          889           Johnston, Miss. Catherine Helen "Carrie"  female
889          890                              Behr, Mr. Karl Howell    male
890          891                                Dooley, Mr. Patrick    male

     Pclass  PassengerId Embarked     Fare  Survived
0         3            1        S   7.2500         0
1         1            2        C  71.2833         1
2         3            3        S   7.9250         1
3         1            4        S  53.1000         1
4         3            5        S   8.0500         0
..      ...          ...      ...      ...       ...
886       2          887        S  13.0000         0
887       1          888        S  30.0000         1
888       3          889        S  23.4500         0
889       1          890        C  30.0000         1
890       3          891        Q   7.7500         0

[891 rows x 8 columns]
```

In [13]:
```
num_df = df[['Age', 'Fare', 'SibSp', 'Parch']].dropna()
print(num_df.head())
```

```
    Age     Fare  SibSp  Parch
0  22.0   7.2500      1      0
1  38.0  71.2833      1      0
2  26.0   7.9250      0      0
3  35.0  53.1000      1      0
4  35.0   8.0500      0      0
```

In [14]:
```
print("\n----------- Calculate Mean -----------\n")
print(num_df.mean())
```

```
----------- Calculate Mean -----------

Age      29.699118
Fare     34.694514
SibSp     0.512605
Parch     0.431373
dtype: float64
```

In [15]:
```
print("\n----------- Calculate Median -----------\n")
print(num_df.median())
```

```
----------- Calculate Median -----------

Age      28.0000
Fare     15.7417
SibSp     0.0000
```

```
Parch     0.0000
dtype: float64
```

In [16]:

```
print("\n----------- Calculate Mode -----------\n")
print(num_df.mode())
```

```
----------- Calculate Mode -----------

    Age  Fare  SibSp  Parch
0  24.0  13.0      0      0
```

In [ ]: