Creating a Sample Dataframe

```
import pandas as pd
import numpy as np

# Creating a sample DataFrame with missing values
data = {
   'School ID': [101, 102, 103, np.nan, 105, 106, 107, 108],
   'Name': ['Alice', 'Bob', 'Charlie', 'David', 'Eva', 'Frank', 'Grace', 'Henry'],
   'Address': ['123 Main St', '456 Oak Ave', '789 Pine Ln', '101 Elm St', np.nan, '222 Maple
Rd', '444 Cedar Blvd', '555 Birch Dr'],
   'City': ['Los Angeles', 'New York', 'Houston', 'Los Angeles', 'Miami', np.nan, 'Houston',
'New York'],
   'Subject': ['Math', 'English', 'Science', 'Math', 'History', 'Math', 'Science', 'English'],
   'Marks': [85, 92, 78, 89, np.nan, 95, 80, 88],
   'Rank': [2, 1, 4, 3, 8, 1, 5, 3],
   'Grade': ['B', 'A', 'C', 'B', 'D', 'A', 'C', 'B']
}

df = pd.DataFrame(data)
print("Sample DataFrame:")

print(df)
```

Output:

```
Sample Dataframe:
   School ID     Name         Address         City  Subject  Marks
Rank Grade
0      101.0    Alice     123 Main St  Los Angeles     Math   85.0
2     B
1      102.0      Bob     456 Oak Ave     New York  English   92.0
1     A
2      103.0  Charlie     789 Pine Ln      Houston  Science   78.0
4     C
3        NaN    David      101 Elm St  Los Angeles     Math   89.0
3     B
4      105.0      Eva             NaN        Miami  History    NaN
8     D
5      106.0    Frank    222 Maple Rd          NaN     Math   95.0
1     A
6      107.0    Grace  444 Cedar Blvd      Houston  Science   80.0
5     C
7      108.0    Henry    555 Birch Dr     New York  English   88.0
3     B
```

Removing Rows with Missing Values

- Simple and efficient: Removes data points with missing values altogether.
- Reduces sample size: Can lead to biased results if missingness is not random.
- Not recommended for large datasets: Can discard valuable information.

In this example, we are removing rows with missing values from the original DataFrame (`df`) using the `dropna()` method and then displaying the cleaned DataFrame (`df_cleaned`).

```
# Removing rows with missing values
df_cleaned = df.dropna()

# Displaying the DataFrame after removing missing values
print("\nDataFrame after removing rows with missing values:")
print(df_cleaned)
```

Output:

```
DataFrame after removing rows with missing values:
   School ID     Name         Address         City  Subject  Marks
Rank Grade
0      101.0    Alice     123 Main St  Los Angeles     Math   85.0
2     B
1      102.0      Bob     456 Oak Ave     New York  English   92.0
1     A
2      103.0  Charlie     789 Pine Ln      Houston  Science   78.0
4     C
6      107.0    Grace  444 Cedar Blvd      Houston  Science   80.0
5     C
7      108.0    Henry    555 Birch Dr     New York  English   88.0
3     B
```