gnm8fgmec

January 23, 2025

```
[1]: import numpy as np
     import pandas as pd
     import matplotlib.pyplot as plt
     import seaborn as sns
```

```
[10]: df = pd.read_csv(r"C:\Users\91703\Downloads\powerlifting_dataset (1).csv")
```

```
[11]: df.head()
```

```
[11]:         Lifter Name  Age Weight Class    Lift Type  Amount Lifted (kg)
      0     Jessica Wilson   46        59 kg  Bench Press                  269
      1           John Doe   60        83 kg  Bench Press                  179
      2        Emily Davis   41       105 kg  Bench Press                  235
      3        Emily Davis   33        66 kg        Squat                  359
      4       Laura Taylor   56        74 kg     Deadlift                  221
```

```
[12]: df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 3000 entries, 0 to 2999
Data columns (total 5 columns):
 #   Column             Non-Null Count  Dtype
---  ------             --------------  -----
 0   Lifter Name        3000 non-null   object
 1   Age                3000 non-null   int64
 2   Weight Class       3000 non-null   object
 3   Lift Type          3000 non-null   object
 4   Amount Lifted (kg) 3000 non-null   int64
dtypes: int64(2), object(3)
memory usage: 117.3+ KB
```

```
[13]: df.describe()
```

```
[13]:               Age  Amount Lifted (kg)
      count  3000.000000         3000.000000
      mean     41.064000          250.332667
      std      13.682628           86.281208
      min      18.000000          100.000000
```

```
25%      29.000000        176.750000
50%      41.000000        250.000000
75%      53.000000        325.250000
max      64.000000        399.000000
```

[14]: `df.isnull().sum()`

[14]:
```
Lifter Name         0
Age                 0
Weight Class        0
Lift Type           0
Amount Lifted (kg)  0
dtype: int64
```

[15]:
```python
#What is the average Amount Lifted (kg) across all lift types?

average_lifted = df['Amount Lifted (kg)'].mean()
print("Average Amount Lifted:", average_lifted)
```

```
Average Amount Lifted: 250.33266666666665
```

[16]:
```python
#What is the total Amount Lifted (kg) by lifters in the 90kg Weight Class?
total_lifted_90kg = df[df['Weight Class'] == '90kg']['Amount Lifted (kg)'].sum()
print("Total Amount Lifted by 90kg lifters:", total_lifted_90kg)
```

```
Total Amount Lifted by 90kg lifters: 0
```

[17]:
```python
#What is the average Age of lifters who performed the Deadlift?
average_age_deadlift = df[df['Lift Type'] == 'Deadlift']['Age'].mean()
print("Average Age of Deadlift lifters:", average_age_deadlift)
```

```
Average Age of Deadlift lifters: 40.413658536585366
```

[18]:
```python
#What is the maximum Amount Lifted (kg) in the Bench Press lift type?
max_bench_press = df[df['Lift Type'] == 'Bench Press']['Amount Lifted (kg)'].
 ↪max()
print("Max Bench Press:", max_bench_press)
```

```
Max Bench Press: 399
```

[19]:
```python
#What is the most common Weight Class of lifters who performed the Squat lift␣
 ↪type?
most_common_squat_class = df[df['Lift Type'] == 'Squat']['Weight Class'].
 ↪value_counts().index[0]
print("Most Common Squat Weight Class:", most_common_squat_class)
```

```
Most Common Squat Weight Class: Open
```

```python
[20]: #What is the minimum Age of lifters who performed any lift type?
      min_age = df['Age'].min()
      print("Minimum Age:", min_age)
```

Minimum Age: 18

```python
[21]: #What is the total number of lifters who performed the Deadlift lift type?
      total_deadlift_lifters = len(df[df['Lift Type'] == 'Deadlift'])
      print("Total Deadlift Lifters:", total_deadlift_lifters)
```

Total Deadlift Lifters: 1025

```python
[22]: #What is the average Amount Lifted (kg) by lifters aged 25 or older?
      avg_lifted_25plus = df[df['Age'] >= 25]['Amount Lifted (kg)'].mean()
      print("Average Amount Lifted by 25+ lifters:", avg_lifted_25plus)
```

Average Amount Lifted by 25+ lifters: 250.3555643251776

```python
[23]: #What is the maximum Age of lifters who performed any lift type?
      max_age = df['Age'].max()
      print("Maximum Age:", max_age)
```

Maximum Age: 64

```python
[24]: #What is the total Amount Lifted (kg) by all lifters?
      total_amount_lifted = df['Amount Lifted (kg)'].sum()
      print("Total Amount Lifted:", total_amount_lifted)
```

Total Amount Lifted: 750998

```python
[29]: #What is the minimum Amount Lifted (kg) by lifters in the Deadlift lift type?
      min_deadlift_lift = df[df['Lift Type'] == 'Deadlift']['Amount Lifted (kg)'].
        ↪min()
      print("Min Deadlift Lift:", min_deadlift_lift)
```

Min Deadlift Lift: 100