```
from google.colab import files
uploaded = files.upload()
```

Choose Files dataset.csv
- **dataset.csv** (text/csv) - 24139 bytes, last modified: 7/10/2023 - 100% done
Saving dataset.csv to dataset.csv

```
import pandas as pd
# Read the dataset from CSV
dataset = pd.read_csv('dataset.csv')


# a. Find the person who is a doctor and has no sleep disorder (count)
doctor_no_disorder_count = len(dataset[(dataset['Occupation'] == 'Doctor') & (dataset['Sleep Disord
print("Number of doctors with no sleep disorder:", doctor_no_disorder_count)
```

```
    Number of doctors with no sleep disorder: 64
```

```
# b. Find the person who has quality of sleeping hours more than 8 (count)
quality_sleep_count = len(dataset[dataset['Quality of Sleep'] > 8])
print("Number of people with more than 8 hours of sleep:", quality_sleep_count)
```

```
    Number of people with more than 8 hours of sleep: 71
```

```
# c. Find the male patient whose BMI Category is Overweight
overweight_male_patients = dataset[(dataset['Gender'] == 'Male') & (dataset['BMI Category'] == 'Ove
print("Male patients with overweight BMI:\n", overweight_male_patients)
```

```
    Male patients with overweight BMI:
         Person ID Gender  Age        Occupation  Sleep Duration  \
    0            1   Male   27  Software Engineer             6.1
    82          83   Male   35           Teacher             6.7
    83          84   Male   35           Teacher             6.7
    103        104   Male   36           Teacher             6.6
    105        106   Male   36           Teacher             6.6
    147        148   Male   39          Engineer             6.5
    167        168   Male   41            Lawyer             7.1
    168        169   Male   41            Lawyer             7.1
    177        178   Male   42       Salesperson             6.5
    187        188   Male   43       Salesperson             6.3
    189        190   Male   43       Salesperson             6.5
    191        192   Male   43       Salesperson             6.4
    192        193   Male   43       Salesperson             6.5
    193        194   Male   43       Salesperson             6.5
    194        195   Male   43       Salesperson             6.5
    195        196   Male   43       Salesperson             6.5
    196        197   Male   43       Salesperson             6.5
    197        198   Male   43       Salesperson             6.5
    198        199   Male   43       Salesperson             6.5
    199        200   Male   43       Salesperson             6.5
    200        201   Male   43       Salesperson             6.5
    204        205   Male   43          Engineer             7.6
    219        220   Male   43       Salesperson             6.5
    221        222   Male   44       Salesperson             6.4
    222        223   Male   44       Salesperson             6.3
    223        224   Male   44       Salesperson             6.4
    225        226   Male   44       Salesperson             6.3
    227        228   Male   44       Salesperson             6.3
    229        230   Male   44       Salesperson             6.3
    231        232   Male   44       Salesperson             6.3
    233        234   Male   44       Salesperson             6.3
    235        236   Male   44       Salesperson             6.3
    236        237   Male   44       Salesperson             6.4
    238        239   Male   44       Salesperson             6.3
    239        240   Male   44       Salesperson             6.4
    241        242   Male   44       Salesperson             6.3
    242        243   Male   44       Salesperson             6.4
    244        245   Male   44       Salesperson             6.3
    246        247   Male   44       Salesperson             6.3
    247        248   Male   44          Engineer             6.8
    248        249   Male   44       Salesperson             6.4
```

```
249       250   Male   44       Salesperson              6.5
```

```
     Quality of Sleep  Physical Activity Level  Stress Level BMI Category  \
0                   6                       42             6   Overweight
82                  7                       40             5   Overweight
83                  7                       40             5   Overweight
103                 5                       35             7   Overweight
105                 5                       35             7   Overweight
147                 5                       40             7   Overweight
167                 7                       55             6   Overweight
168                 7                       55             6   Overweight
177                 6                       45             7   Overweight
187                 6                       45             7   Overweight
189                 6                       45             7   Overweight
191                 6                       45             7   Overweight
```

```python
# d. Find the average steps of the person who is a teacher
average_steps_teacher = dataset[dataset['Occupation'] == 'Teacher']['Daily Steps'].mean()
print("Average steps of teachers:", average_steps_teacher)
```

```
    Average steps of teachers: 5957.5
```

```python
# e. Find the average heart rate of the software engineer
average_heart_rate = dataset[dataset['Occupation'] == 'Software Engineer']['Heart Rate'].mean()
print("Average heart rate of software engineers:", average_heart_rate)
```

```
    Average heart rate of software engineers: 75.5
```

```python
# f. Plotting 3 different graphs

import matplotlib.pyplot as plt

# Example 1: Bar chart of sleep duration by occupation
occupation_sleep_duration = dataset.groupby('Occupation')['Sleep Duration'].mean()
occupation_sleep_duration.plot(kind='bar')
plt.xlabel('Occupation')
plt.ylabel('Sleep Duration')
plt.title('Average Sleep Duration by Occupation')
plt.show()
```
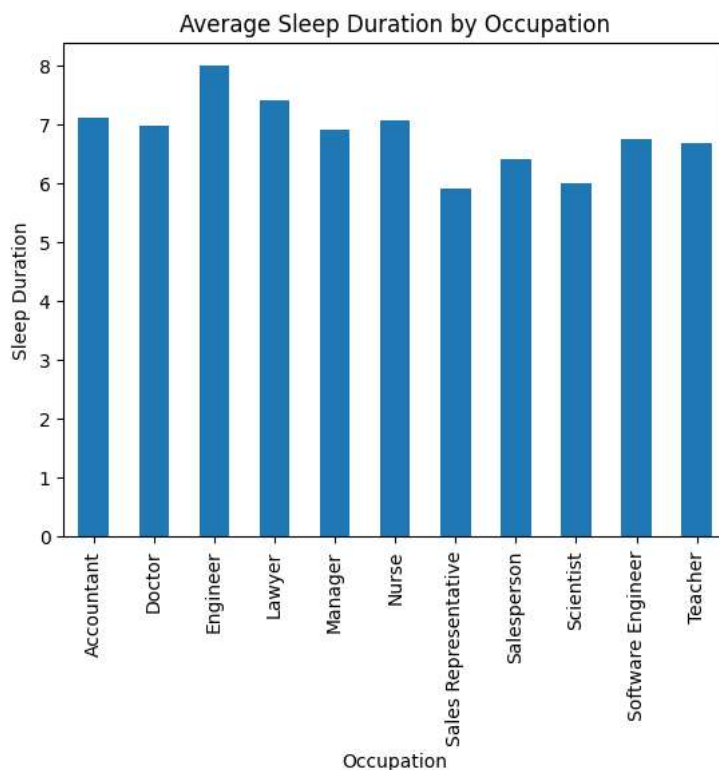
```python
import matplotlib.pyplot as plt
# Example 2: Histogram of age distribution
dataset['Age'].hist(bins=10)
plt.xlabel('Age')
plt.ylabel('Frequency')
plt.title('Age Distribution')
plt.show()
```
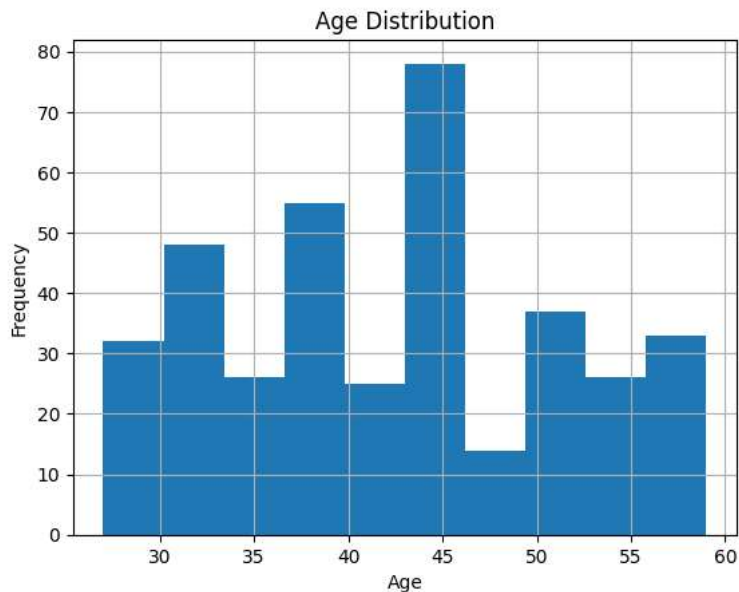


```python
import matplotlib.pyplot as plt
# Example 3: Scatter plot of BMI vs. Heart Rate
plt.scatter(dataset['Quality of Sleep'], dataset['Heart Rate'])
plt.xlabel('Quality of Sleep')
plt.ylabel('Heart Rate')
plt.title('Quality of Sleep vs. Heart Rate')
plt.show()
```



```python
# g. Apply linear regression on given dataset
import pandas as pd
from sklearn.linear_model import LinearRegression
```

```python
# Read the dataset from CSV
dataset = pd.read_csv('dataset.csv')

# Specify the input features (independent variables) and the target variable (dependent variable)
X = dataset[['Age', 'Heart Rate']]
y = dataset['Sleep Duration']

# Create a linear regression model
regressor = LinearRegression()

# Fit the model to the data
regressor.fit(X, y)

# Get the coefficients and intercept
coefficients = regressor.coef_
intercept = regressor.intercept_

# Print the coefficients and intercept
print("Coefficients:", coefficients)
print("Intercept:", intercept)
```

```
Coefficients: [ 0.02205672 -0.08892432]
Intercept: 12.441077840373858
```

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