Data Analysis Project on IBM Employee Dataset

```
# import python libraries

import numpy as np
import pandas as pd
import matplotlib.pyplot as plt

# import csv file
df = pd.read_csv('ibmdataset1.csv', encoding= 'unicode_escape')
display(df)
```

```
      Age              State              Travel  DailyRate  \
0    34.0      UttarPradesh      Travel_Rarely        790
1    35.0       Maharashtra      Travel_Rarely        660
2    24.0          Karnatka  Travel_Frequently        381
3    24.0             Delhi         Non-Travel        830
4    44.0    Madhya Pradesh  Travel_Frequently       1193
..    ...               ...                ...        ...
444  36.0  Himachal Pradesh  Travel_Frequently        884
445  39.0            Kerala      Travel_Rarely        613
446  27.0           Haryana      Travel_Rarely        155
447  49.0             Bihar  Travel_Frequently       1023
448  34.0            Gujrat      Travel_Rarely        628

                  Department  DistanceHome  Education EducationField  \
0                      Sales          24.0          4        Medical
1                      Sales           7.0          1  Life Sciences
2    Research & Development           9.0          3        Medical
3                      Sales          13.0          2  Life Sciences
4    Research & Development           2.0          1        Medical
..                      ...           ...        ...            ...
444  Research & Development          23.0          2        Medical
445  Research & Development           6.0          1        Medical
446  Research & Development           4.0          3  Life Sciences
447                    Sales           2.0          3        Medical
448  Research & Development           8.0          3        Medical

     EmployeeCount  EmployeeNumber  ...  Income NumCompaniesWorked
Over18  \
0                1            1489  ...    4599                   0
Y
1                1            1492  ...    2404                   1
Y
2                1            1494  ...    3172                   2
Y
3                1            1495  ...    2033                   1
Y
4                1            1496  ...   10209                   5
```

```
Y
..              ...              ...  ...     ...                  ...
...
444              1            2087  ...    2571                    4
Y
445              1            2088  ...    9991                    4
Y
446              1            2089  ...    6142                    1
Y
447              1            2090  ...    5390                    2
Y
448              1            2091  ...    4404                    2
Y

     OverTime  PercentSalaryHike PerformanceRating  TotalWorkingYears
\
0         Yes                 23                 4                 16

1          No                 13                 3                  1

2         Yes                 11                 3                  4

3          No                 13                 3                  1

4         Yes                 18                 3                 16

..        ...                ...               ...                ...

444        No                 17                 3                 17

445        No                 15                 3                  9

446       Yes                 20                 4                  6

447        No                 14                 3                 17

448        No                 12                 3                  6


    YearsAtCompany  unnamed1  unnamed2
0               15       NaN       NaN
1                1       NaN       NaN
2                0       NaN       NaN
3                1       NaN       NaN
4                2       NaN       NaN
..             ...       ...       ...
444              5       NaN       NaN
445              7       NaN       NaN
446              6       NaN       NaN
447              9       NaN       NaN
```

```
448              4       NaN       NaN

[449 rows x 28 columns]
```

```
df.shape
```

```
(449, 28)
```

```
df.head()
```

```
    Age           State              Travel  DailyRate
Department  \
0  34.0    UttarPradesh      Travel_Rarely        790
Sales
1  35.0     Maharashtra      Travel_Rarely        660
Sales
2  24.0        Karnatka  Travel_Frequently        381  Research &
Development
3  24.0           Delhi         Non-Travel        830
Sales
4  44.0  Madhya Pradesh  Travel_Frequently       1193  Research &
Development

   DistanceHome  Education EducationField  EmployeeCount
EmployeeNumber  ...  \
0          24.0          4        Medical              1
1489  ...
1           7.0          1  Life Sciences              1
1492  ...
2           9.0          3        Medical              1
1494  ...
3          13.0          2  Life Sciences              1
1495  ...
4           2.0          1        Medical              1
1496  ...

   Income NumCompaniesWorked  Over18  OverTime  PercentSalaryHike  \
0    4599                  0       Y       Yes                 23
1    2404                  1       Y        No                 13
2    3172                  2       Y       Yes                 11
3    2033                  1       Y        No                 13
4   10209                  5       Y       Yes                 18

  PerformanceRating  TotalWorkingYears YearsAtCompany  unnamed1
unnamed2
0                 4                 16             15       NaN
NaN
1                 3                  1              1       NaN
NaN
2                 3                  4              0       NaN
NaN
```

```
3                  3                   1               1       NaN
NaN
4                  3                  16               2       NaN
NaN

[5 rows x 28 columns]
```

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 449 entries, 0 to 448
Data columns (total 28 columns):
 #   Column                    Non-Null Count  Dtype
---  ------                    --------------  -----
 0   Age                       449 non-null    float64
 1   State                     449 non-null    object
 2   Travel                    449 non-null    object
 3   DailyRate                 449 non-null    int64
 4   Department                449 non-null    object
 5   DistanceHome              446 non-null    float64
 6   Education                 449 non-null    int64
 7   EducationField            448 non-null    object
 8   EmployeeCount             449 non-null    int64
 9   EmployeeNumber            449 non-null    int64
 10  EnvironmentSatisfaction   448 non-null    float64
 11  Gender                    449 non-null    object
 12  HourlyRate                449 non-null    int64
 13  JobLevel                  449 non-null    int64
 14  error0##                  0 non-null      float64
 15  JobRole                   449 non-null    object
 16  Job satisfaction          0 non-null      float64
 17  Married                   449 non-null    object
 18  Income                    449 non-null    int64
 19  NumCompaniesWorked        449 non-null    int64
 20  Over18                    446 non-null    object
 21  OverTime                  449 non-null    object
 22  PercentSalaryHike         449 non-null    int64
 23  PerformanceRating         449 non-null    int64
 24  TotalWorkingYears         449 non-null    int64
 25  YearsAtCompany            449 non-null    int64
 26  unnamed1                  0 non-null      float64
 27  unnamed2                  0 non-null      float64
dtypes: float64(7), int64(12), object(9)
memory usage: 98.3+ KB
```

```
df.columns
```

```
Index(['Age', 'State', 'Travel', 'DailyRate', 'Department',
'DistanceHome',
       'Education', 'EducationField', 'EmployeeCount',
```

```
'EmployeeNumber',
       'EnvironmentSatisfaction', 'Gender', 'HourlyRate', 'JobLevel',
       'error0##', 'JobRole', 'Job satisfaction', 'Married', 'Income',
       'NumCompaniesWorked', 'Over18', 'OverTime',
'PercentSalaryHike',
       'PerformanceRating', 'TotalWorkingYears', 'YearsAtCompany',
'unnamed1',
       'unnamed2'],
      dtype='object')
```

```
#drop unrelated/blank columns
df.drop(['unnamed1', 'unnamed2','error0##','Job satisfaction'],
axis=1, inplace=True)
```

```
#check for null values
pd.isnull(df).sum()
```

```
Age                         0
State                       0
Travel                      0
DailyRate                   0
Department                  0
DistanceHome                3
Education                   0
EducationField              1
EmployeeCount               0
EmployeeNumber              0
EnvironmentSatisfaction     1
Gender                      0
HourlyRate                  0
JobLevel                    0
JobRole                     0
Married                     0
Income                      0
NumCompaniesWorked          0
Over18                      3
OverTime                    0
PercentSalaryHike           0
PerformanceRating           0
TotalWorkingYears           0
YearsAtCompany              0
dtype: int64
```

```
# drop null values
df.dropna(inplace=True)

pd.isnull(df).sum()
```

```
Age                         0
State                       0
Travel                      0
```

```
DailyRate                 0
Department                0
DistanceHome              0
Education                 0
EducationField            0
EmployeeCount             0
EmployeeNumber            0
EnvironmentSatisfaction   0
Gender                    0
HourlyRate                0
JobLevel                  0
JobRole                   0
Married                   0
Income                    0
NumCompaniesWorked        0
Over18                    0
OverTime                  0
PercentSalaryHike         0
PerformanceRating         0
TotalWorkingYears         0
YearsAtCompany            0
dtype: int64
```

```
df.dtypes
```

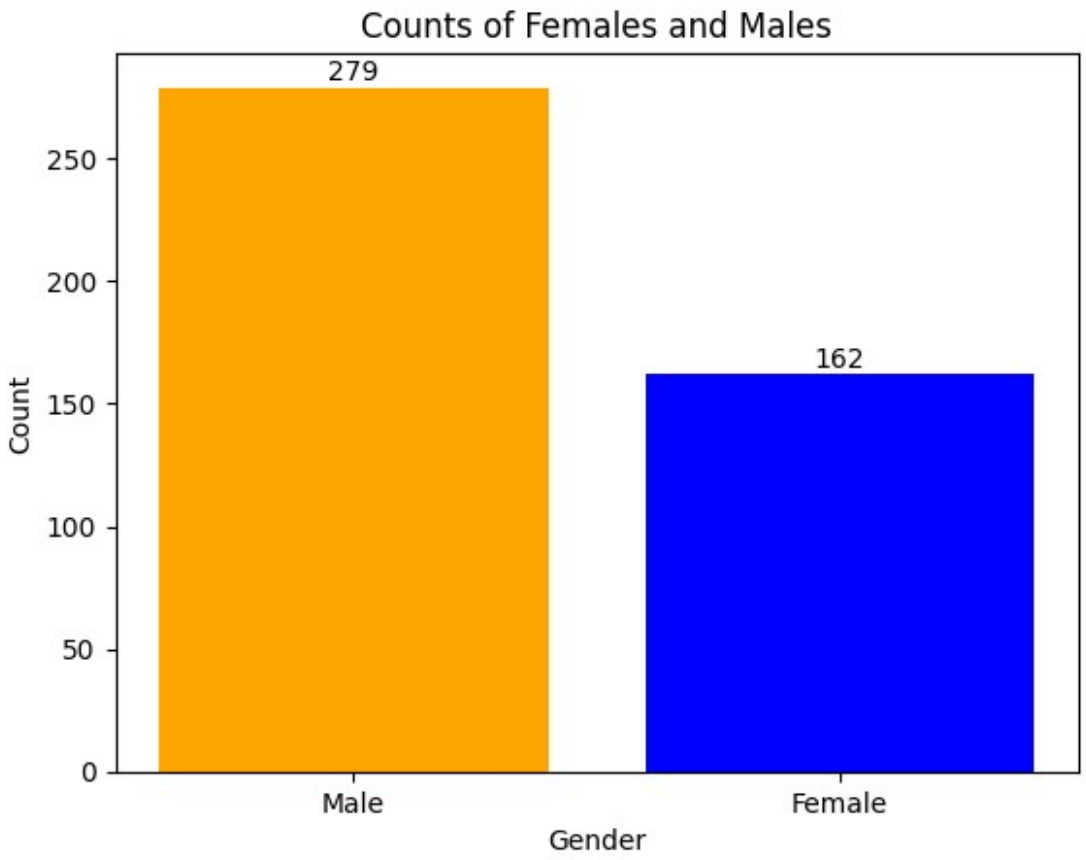
```
Age                        int32
State                     object
BusinessTravel            object
DailyRate                  int64
Department                object
DistanceFromHome         float64
Education                  int64
EducationField            object
EmployeeCount              int64
EmployeeNumber             int64
EnvironmentSatisfaction  float64
Gender                    object
HourlyRate                 int64
JobLevel                   int64
JobRole                   object
MaritalStatus             object
Income                     int64
NumCompaniesWorked         int64
Over18                    object
OverTime                  object
PercentSalaryHike          int64
PerformanceRating          int64
TotalWorkingYears          int64
YearsAtCompany             int64
dtype: object
```

```
# change data type
df['Age'] = df['Age'].astype('int')

df['Age'].dtypes

dtype('int32')

df.columns

Index(['Age', 'State', 'Travel', 'DailyRate', 'Department',
'DistanceHome',
       'Education', 'EducationField', 'EmployeeCount',
'EmployeeNumber',
       'EnvironmentSatisfaction', 'Gender', 'HourlyRate', 'JobLevel',
       'JobRole', 'Married', 'Income', 'NumCompaniesWorked', 'Over18',
       'OverTime', 'PercentSalaryHike', 'PerformanceRating',
       'TotalWorkingYears', 'YearsAtCompany'],
      dtype='object')

#rename column
df.rename(columns= {'DistanceHome':'DistanceFromHome'},inplace=True)

df.rename(columns= {'Married':'MaritalStatus'},inplace=True)

df.rename(columns= {'Travel':'BusinessTravel'},inplace=True)

# describe() method returns description of the data in the DataFrame
(i.e. count, mean, std, etc)
df.describe()

              Age    DailyRate  DistanceFromHome   Education
EmployeeCount  \
count  441.000000   441.000000        441.000000  441.000000
441.0
mean    36.696145   776.482993          9.845805    3.004535
1.0
std      8.415797   388.428279          8.412317    0.997714
0.0
min     18.000000   104.000000          1.000000    1.000000
1.0
25%     31.000000   461.000000          2.000000    2.000000
1.0
50%     36.000000   728.000000          8.000000    3.000000
1.0
75%     42.000000  1142.000000         15.000000    4.000000
1.0
max     60.000000  1495.000000         29.000000    5.000000
1.0

       EmployeeNumber  EnvironmentSatisfaction  HourlyRate    JobLevel
\
```

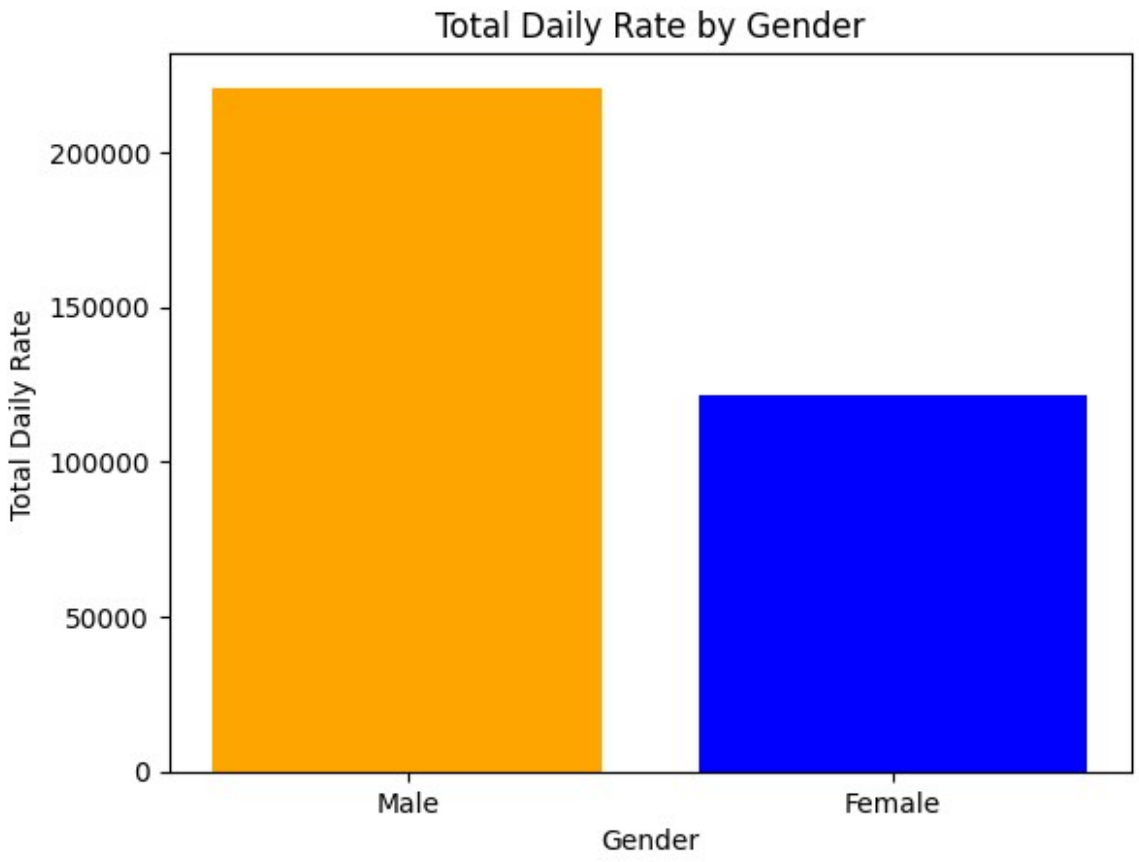
```
count      441.000000                441.000000  441.000000  441.000000

mean      1803.147392                  2.746032   66.643991    2.004535

std        176.348347                  1.105313   20.515576    1.031317

min       1489.000000                  1.000000   30.000000    1.000000

25%       1651.000000                  2.000000   48.000000    1.000000

50%       1799.000000                  3.000000   67.000000    2.000000

75%       1966.000000                  4.000000   85.000000    2.000000

max       2091.000000                  4.000000  100.000000    5.000000


             Income  NumCompaniesWorked  PercentSalaryHike
PerformanceRating  \
count    441.000000          441.000000         441.000000
441.000000
mean    6227.272109            2.657596          15.335601
3.163265
std     4361.727195            2.453799           3.719827
0.370027
min     1081.000000            0.000000          11.000000
3.000000
25%     2966.000000            1.000000          12.000000
3.000000
50%     5033.000000            2.000000          14.000000
3.000000
75%     7644.000000            4.000000          18.000000
3.000000
max    19833.000000            9.000000          25.000000
4.000000

       TotalWorkingYears  YearsAtCompany
count         441.000000      441.000000
mean           10.965986        6.938776
std             7.087199        5.730569
min             0.000000        0.000000
25%             6.000000        3.000000
50%            10.000000        5.000000
75%            14.000000       10.000000
max            37.000000       36.000000

# use describe() for specific columns
df['Age'].describe()

count    441.000000
mean      36.696145
```

```
std         8.415797
min        18.000000
25%        31.000000
50%        36.000000
75%        42.000000
max        60.000000
Name: Age, dtype: float64
```

```
gender_counts = df['Gender'].value_counts()

num_females = gender_counts['Female']
num_males = gender_counts['Male']

colors = ['orange', 'blue']

plt.bar(['Male', 'Female'], [num_males,num_females], color=colors)

index = 0
values = [num_males,num_females]
while index < len(values):
    v = values[index]
    plt.text(index, v + 0.5, str(v), ha='center', va='bottom')
    index += 1

plt.xlabel('Gender')
plt.ylabel('Count')
plt.title('Counts of Females and Males')

# Display the plot
plt.show()
```

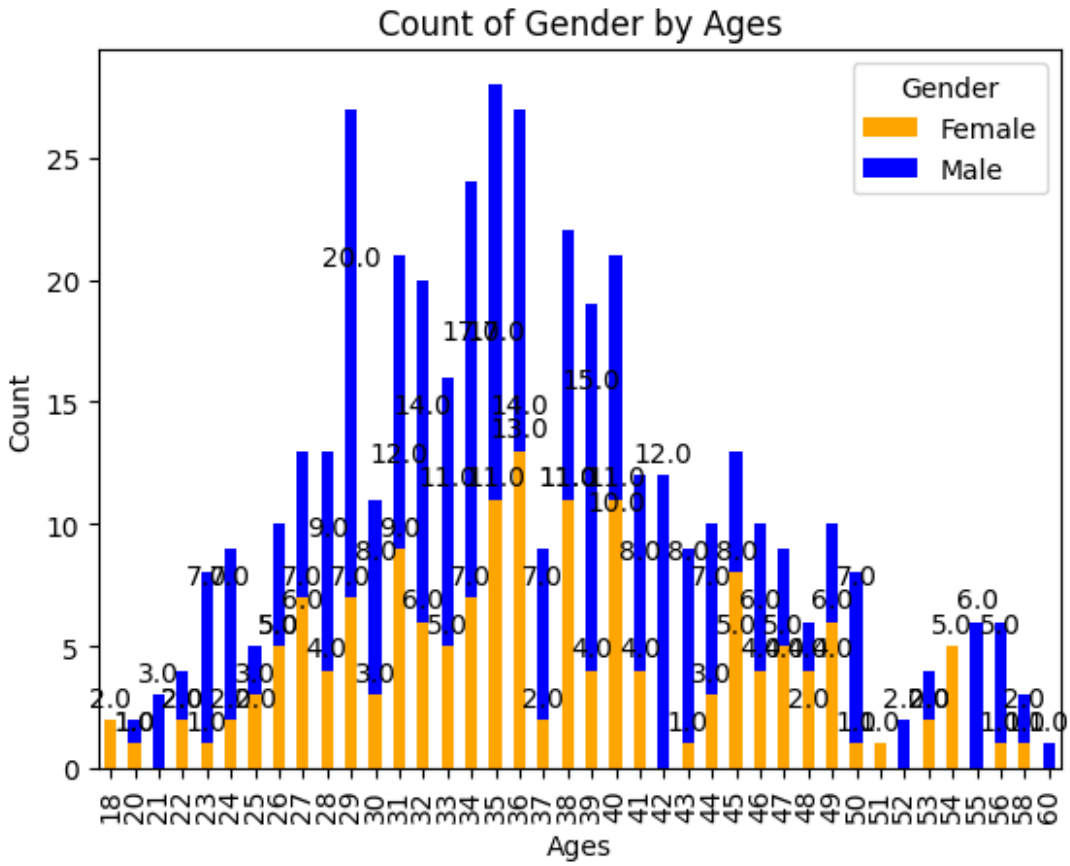



```
sales_gen = df.groupby(['Gender'], as_index=False)
['DailyRate'].sum().sort_values(by='DailyRate', ascending=False)

# Plot the bar graph using Matplotlib
plt.bar(sales_gen['Gender'], sales_gen['DailyRate'], color=['orange',
'blue'])

# Add labels for axes and a title
plt.xlabel('Gender')
plt.ylabel('Total Daily Rate')
plt.title('Total Daily Rate by Gender')

# Display the plot
plt.show()
```



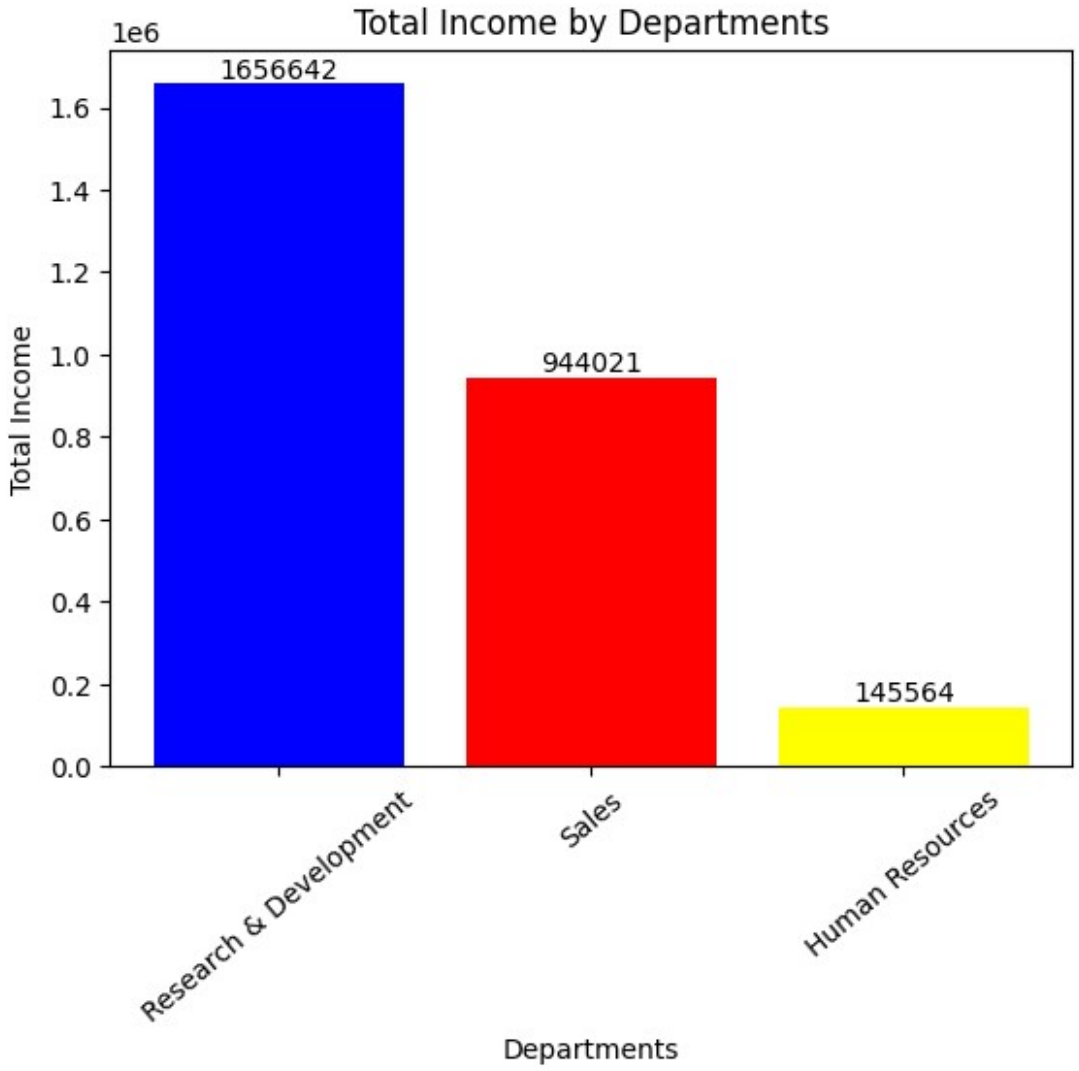

```
grouped_data = df.groupby(['Age', 'Gender']).size().unstack()

# Create the count plot using Matplotlib
ax = grouped_data.plot(kind='bar', stacked=True, color=['orange',
'blue'])

# Add labels for each bar
for container in ax.containers:
    for bar in container:
        height = bar.get_height()
        if height > 0:  # To show labels only for non-zero bars
            ax.annotate('{}'.format(height),
                        xy=(bar.get_x() + bar.get_width() / 2,
height),
                        xytext=(0, 3),  # 3 points vertical offset
                        textcoords="offset points",
                        ha='center', va='bottom')

# Add labels for axes and a title
plt.xlabel('Ages')
plt.ylabel('Count')
plt.title('Count of Gender by Ages')
```

```
# Display the plot
plt.show()
```



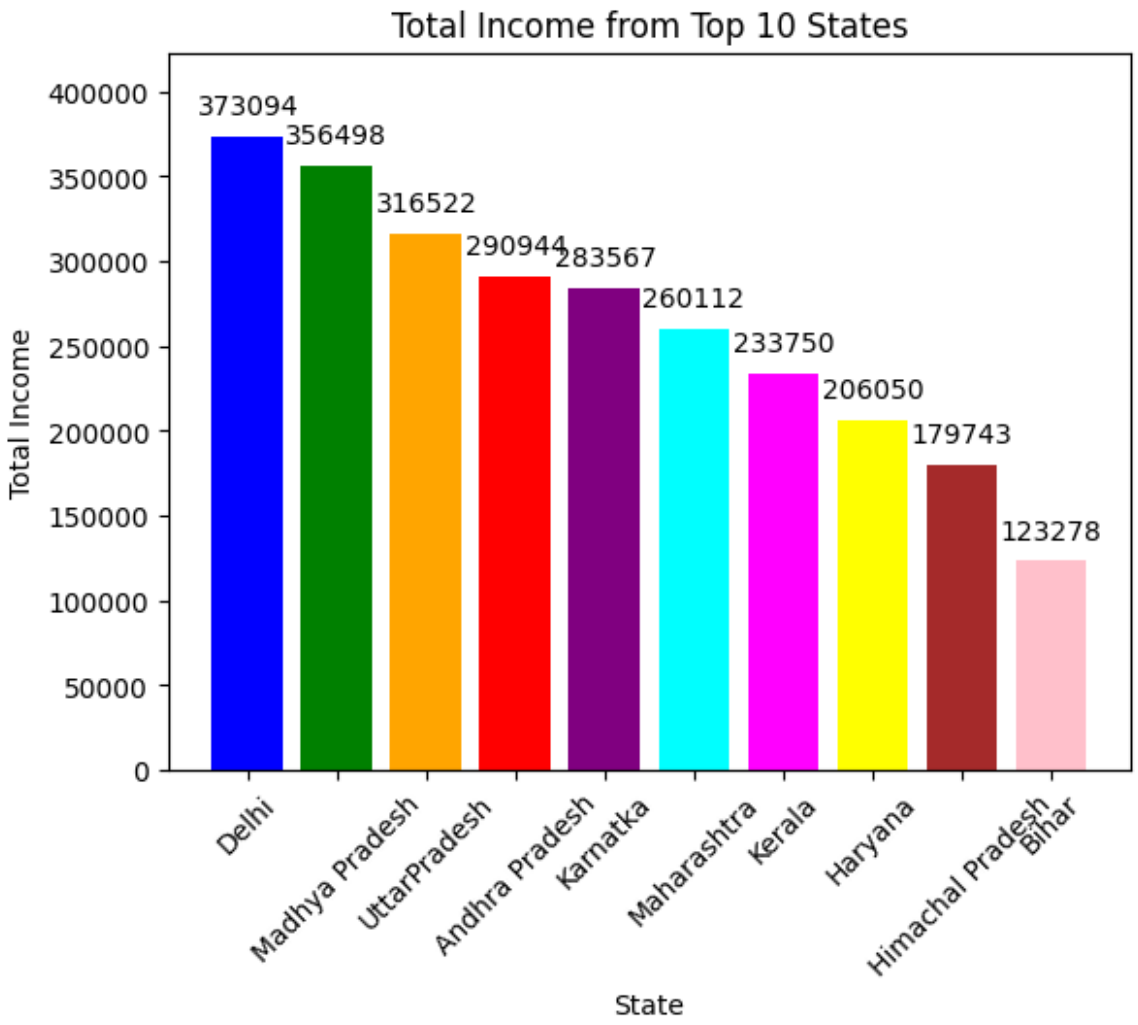

```
# Assuming df is your DataFrame and 'Age' and 'Amount' are the
relevant columns
sales_age = df.groupby(['Department'], as_index=False)
['Income'].sum().sort_values(by='Income', ascending=False)

# Create the bar plot using Matplotlib
plt.bar(sales_age['Department'], sales_age['Income'],
color=['blue','red','yellow'])

# Add labels for each bar
for i, v in enumerate(sales_age['Income']):
    plt.text(i, v + 1000, str(v), ha='center', va='bottom')

# Add labels for axes and a title
plt.xlabel('Departments')
plt.ylabel('Total Income')
plt.title('Total Income by Departments')
```

```
# Rotate the x-axis labels for better readability (optional)
plt.xticks(rotation=40)

# Display the plot
# plt.tight_layout()
plt.show()
```




```
# Assuming df is your DataFrame and 'State' and 'Income' are the
relevant columns
sales_state = df.groupby(['State'], as_index=False)
['Income'].sum().sort_values(by='Income', ascending=False).head(10)
colors = ['blue', 'green', 'orange', 'red', 'purple', 'cyan',
'magenta', 'yellow', 'brown', 'pink']
# Create the bar plot using Matplotlib
plt.bar(sales_state['State'], sales_state['Income'], color=colors)
```

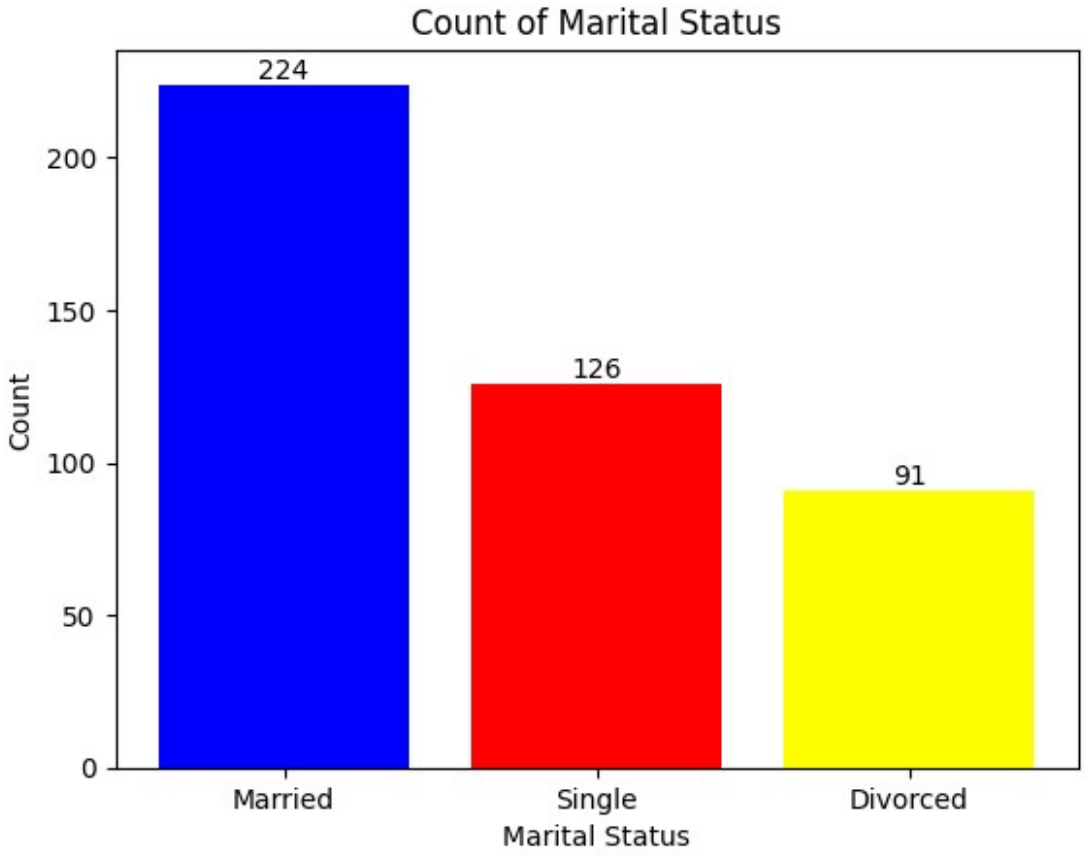
```
# Add labels for each bar
for i, v in enumerate(sales_state['Income']):
    plt.text(i, v + 10000, str(v), ha='center', va='bottom')

# Add labels for axes and a title
plt.xlabel('State')
plt.ylabel('Total Income')
plt.title('Total Income from Top 10 States')

# Rotate the x-axis labels for better readability (optional)
plt.xticks(rotation=45)

plt.ylim(0, max(sales_state['Income']) + 50000)  # Adjust the value as
needed to provide enough space

# Adjust the figure size (optional)
plt.figure(figsize=(15, 5))

plt.show()
```




```
<Figure size 1500x500 with 0 Axes>
```

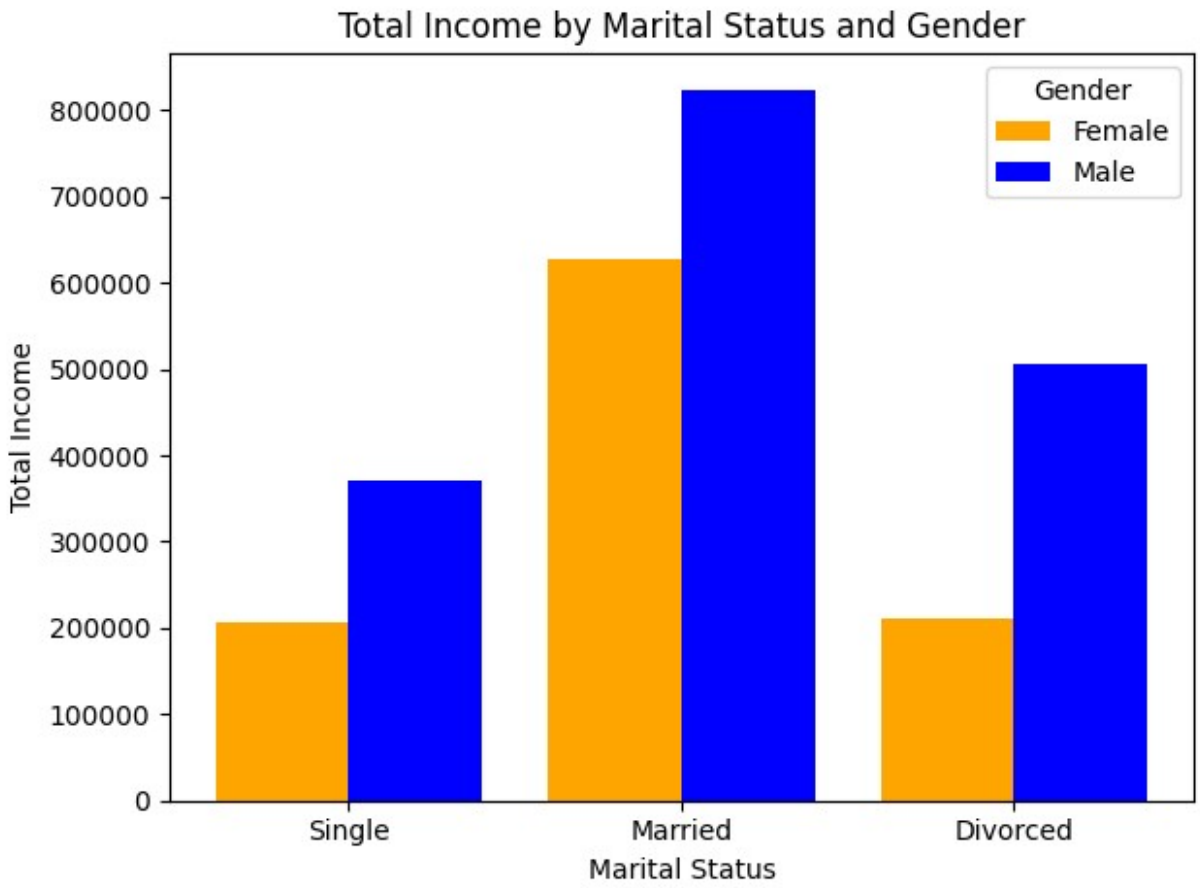
```
# Assuming df is your DataFrame and 'MaritalStatus' is the relevant
column
marital_counts = df['MaritalStatus'].value_counts()

# Create the bar plot using Matplotlib
plt.bar(marital_counts.index, marital_counts.values,
color=['blue','red','yellow'])

# # Add labels for each bar
for i, v in enumerate(marital_counts.values):
    plt.text(i, v, str(v), ha='center', va='bottom')

# Add labels for axes and a title
plt.xlabel('Marital Status')
plt.ylabel('Count')
plt.title('Count of Marital Status')
```

```
# Set the figure size
plt.figure(figsize=(7, 5))

# Display the plot
# plt.tight_layout()
plt.show()
```

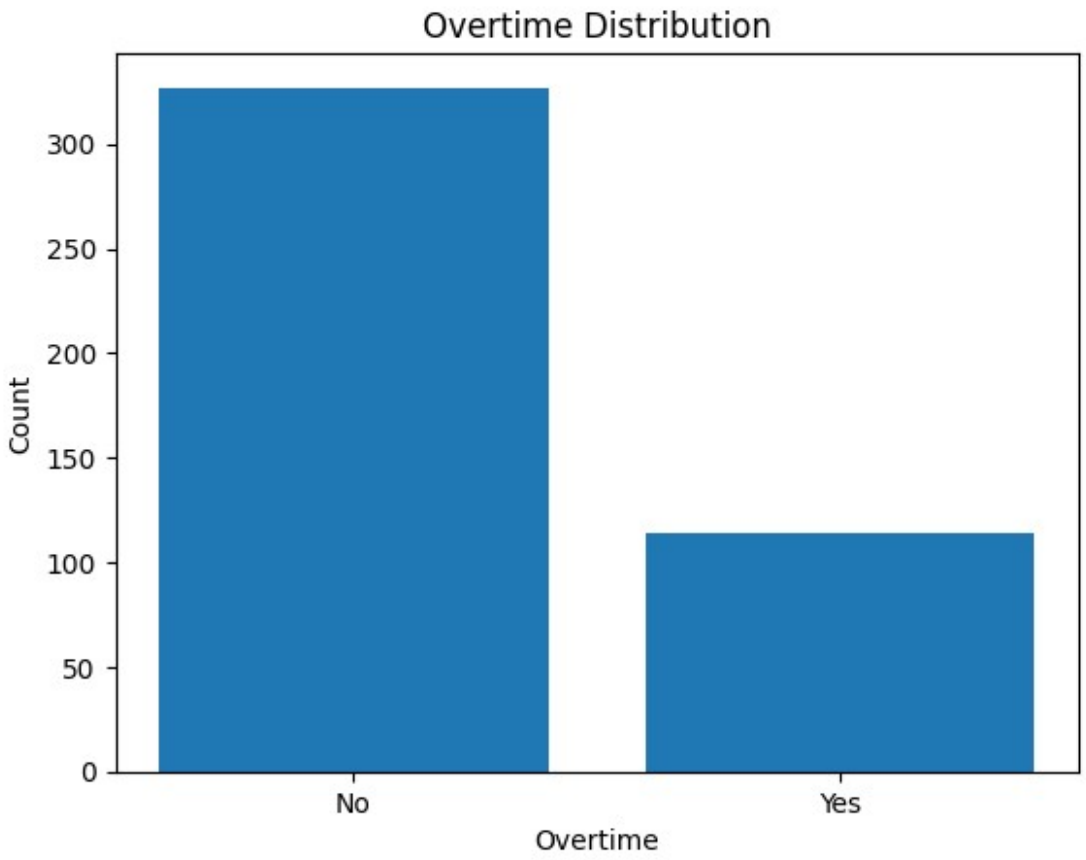



```
<Figure size 700x500 with 0 Axes>

# Assuming df is your DataFrame with the specified columns
# Group data by 'MaritalStatus' and 'Gender' and calculate the sum of
'Income' for each group
income_data = df.groupby(['MaritalStatus', 'Gender'])
['Income'].sum().reset_index()

# Get unique marital status categories and set their positions on the
x-axis
marital_status_categories = df['MaritalStatus'].unique()
x_positions = range(len(marital_status_categories))

# Get unique gender categories and set their colors for the legend
gender_categories = df['Gender'].unique()
colors = ['orange', 'blue']
```

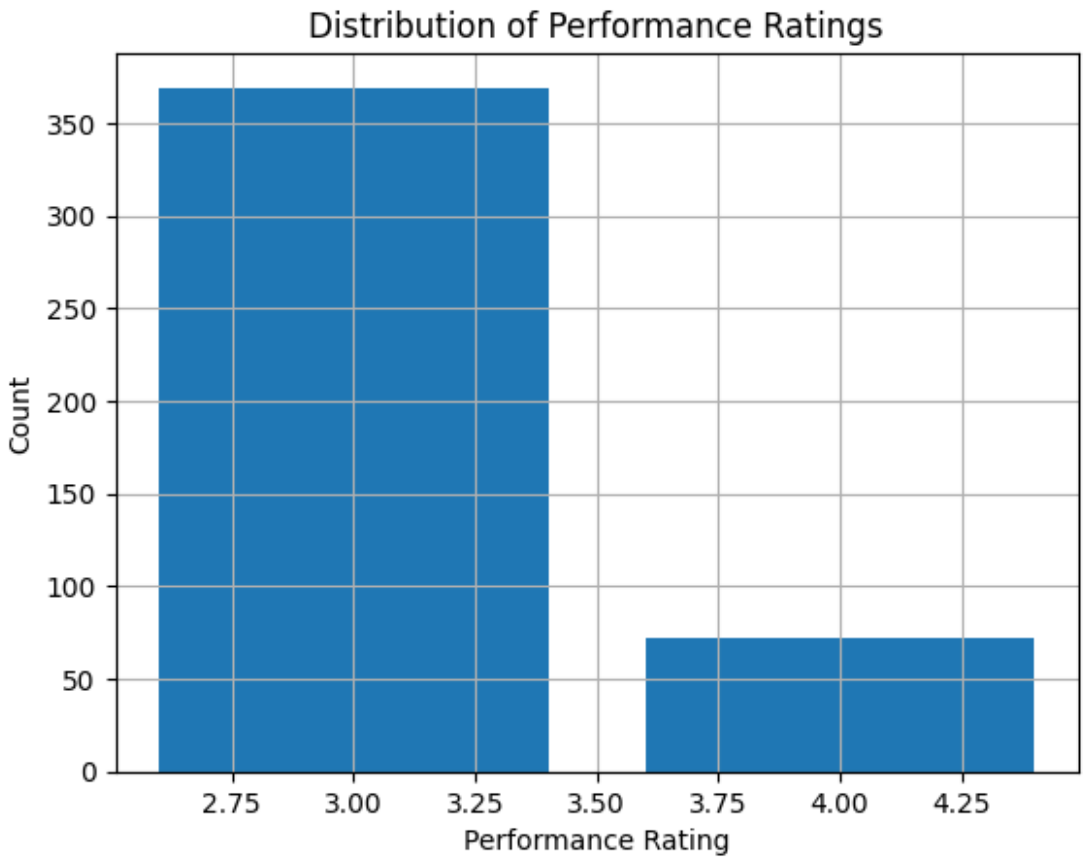
```
# Create the bar plot using Matplotlib
bar_width = 0.4

for i, gender in enumerate(gender_categories):
    gender_data = income_data[income_data['Gender'] == gender]
    plt.bar([pos + i * bar_width for pos in x_positions],
gender_data['Income'], width=bar_width, label=gender, color=colors[i])

# Add labels for axes and a title
plt.xlabel('Marital Status')
plt.ylabel('Total Income')
plt.title('Total Income by Marital Status and Gender')

# Set x-axis tick positions and labels
plt.xticks([pos + bar_width / 2 for pos in x_positions],
marital_status_categories)

# Display the legend
plt.legend(title='Gender', title_fontsize=10)

# Display the plot
plt.tight_layout()
plt.show()
```




```
overtime_counts = df['OverTime'].value_counts()

# Extract the unique categories (Yes and No) and their corresponding
counts
categories = overtime_counts.index
counts = overtime_counts.values

# Create a bar plot
plt.bar(categories, counts)

# Add labels and title
plt.xlabel('Overtime')
plt.ylabel('Count')
plt.title('Overtime Distribution')

# Show the plot
plt.show()
```

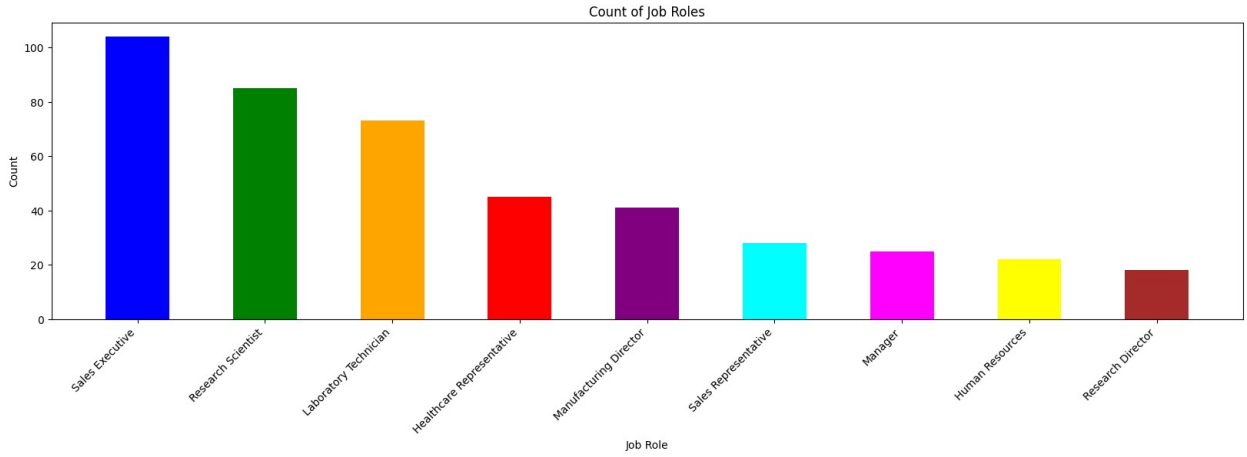



```
performance_ratings = df['PerformanceRating']

# Count the occurrences of each rating level
rating_counts = {}
for rating in performance_ratings:
    rating_counts[rating] = rating_counts.get(rating, 0) + 1

# Extract the unique rating levels and their counts
ratings = list(rating_counts.keys())
counts = list(rating_counts.values())

# Create the bar plot
plt.bar(ratings, counts)

# Customize the plot
plt.xlabel('Performance Rating')
plt.ylabel('Count')
plt.title('Distribution of Performance Ratings')
plt.grid(True)

# Show the plot
plt.show()
```

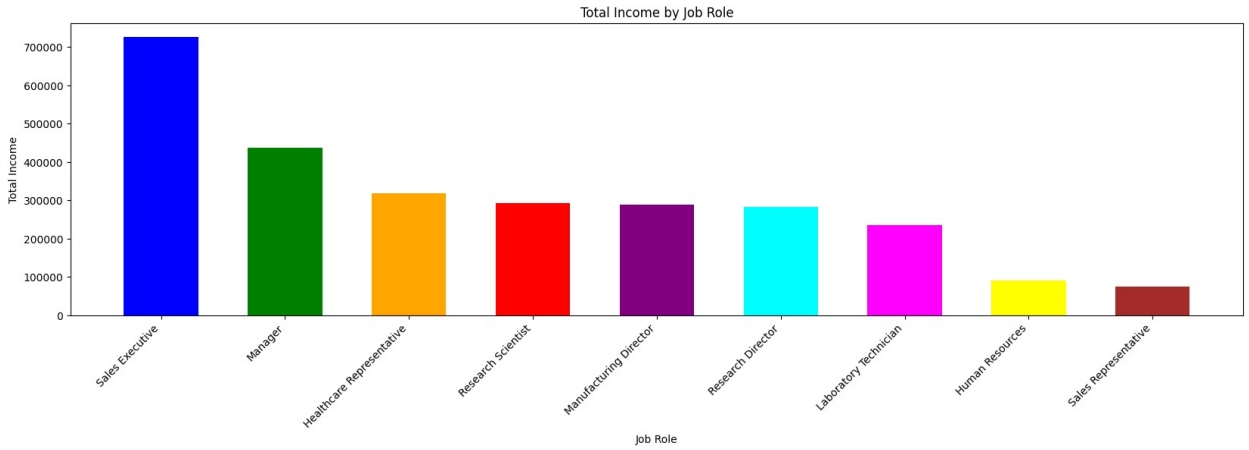



```
# Assuming df is your DataFrame and 'JobRole' is the relevant column
job_role_counts = df['JobRole'].value_counts()

# Set the figure size using Matplotlib
plt.figure(figsize=(20, 5))
colors = ['blue', 'green', 'orange', 'red', 'purple', 'cyan',
'magenta', 'yellow', 'brown', 'pink']
# Create the bar plot using Matplotlib with increased gap between bars
bar_width = 0.5  # Increase the bar width to add a gap between bars
bar_positions = range(len(job_role_counts))

plt.bar(bar_positions, job_role_counts, width=bar_width, color=colors)

# Add labels for axes and a title
plt.xlabel('Job Role')
plt.ylabel('Count')
plt.title('Count of Job Roles')

# Set x-axis tick positions and labels
plt.xticks(bar_positions, job_role_counts.index, rotation=45,
ha='right')

# Display the plot
```

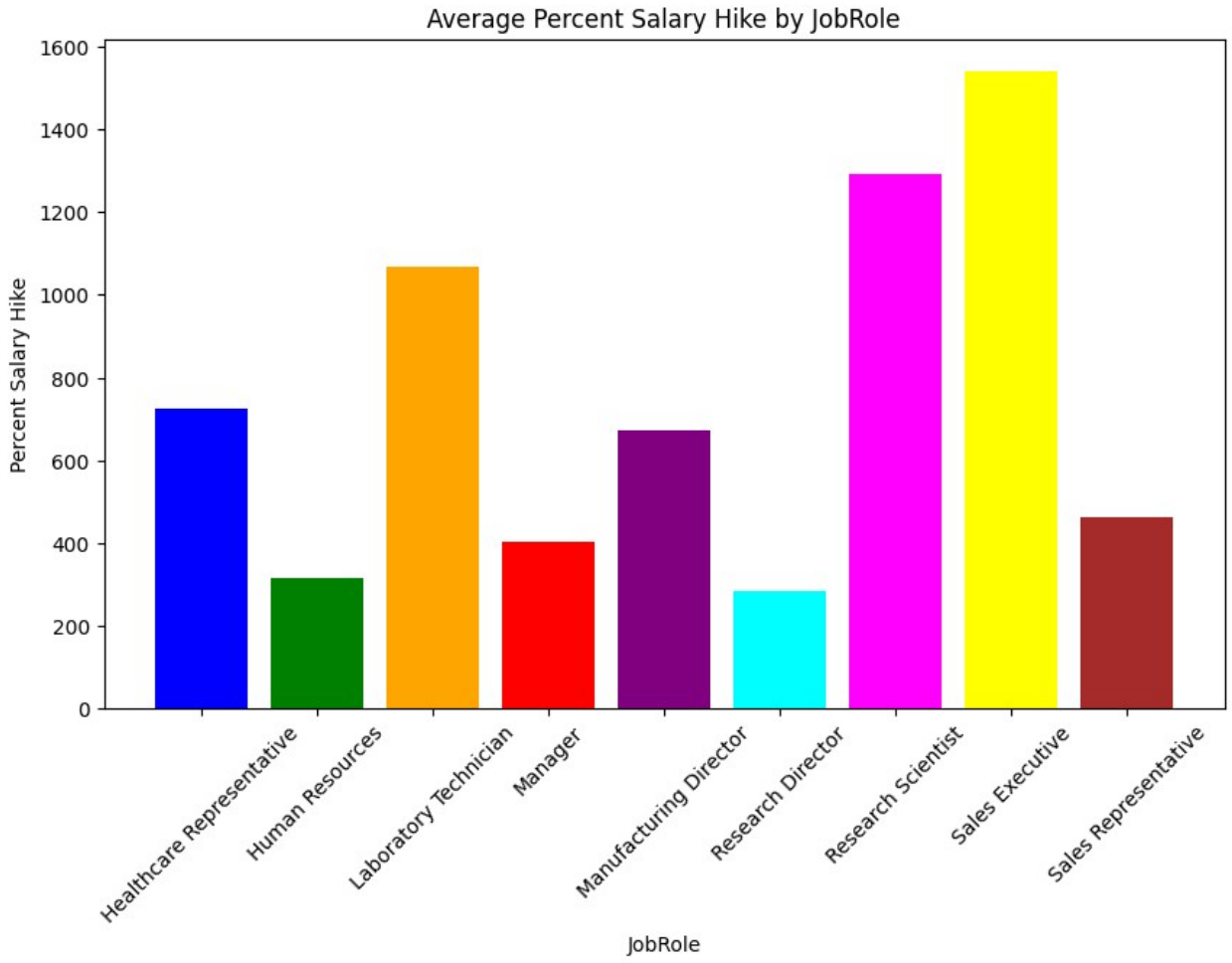
```
# plt.tight_layout()
plt.show()
```




```
# Assuming df is your DataFrame and 'JobRole' and 'Income' are the
relevant columns
sales_state = df.groupby(['JobRole'], as_index=False)
['Income'].sum().sort_values(by='Income', ascending=False)

# Set the figure size using Matplotlib
plt.figure(figsize=(20, 5))
colors = ['blue', 'green', 'orange', 'red', 'purple', 'cyan',
'magenta', 'yellow', 'brown', 'pink']

# Create the bar plot using Matplotlib
bar_width = 0.6
bar_positions = range(len(sales_state))

plt.bar(bar_positions, sales_state['Income'], width=bar_width,
color=colors)

# Add labels for axes and a title
plt.xlabel('Job Role')
plt.ylabel('Total Income')
plt.title('Total Income by Job Role')

# Set x-axis tick positions and labels
plt.xticks(bar_positions, sales_state['JobRole'], rotation=45,
ha='right')

# Display the plot
# plt.tight_layout()
plt.show()
```

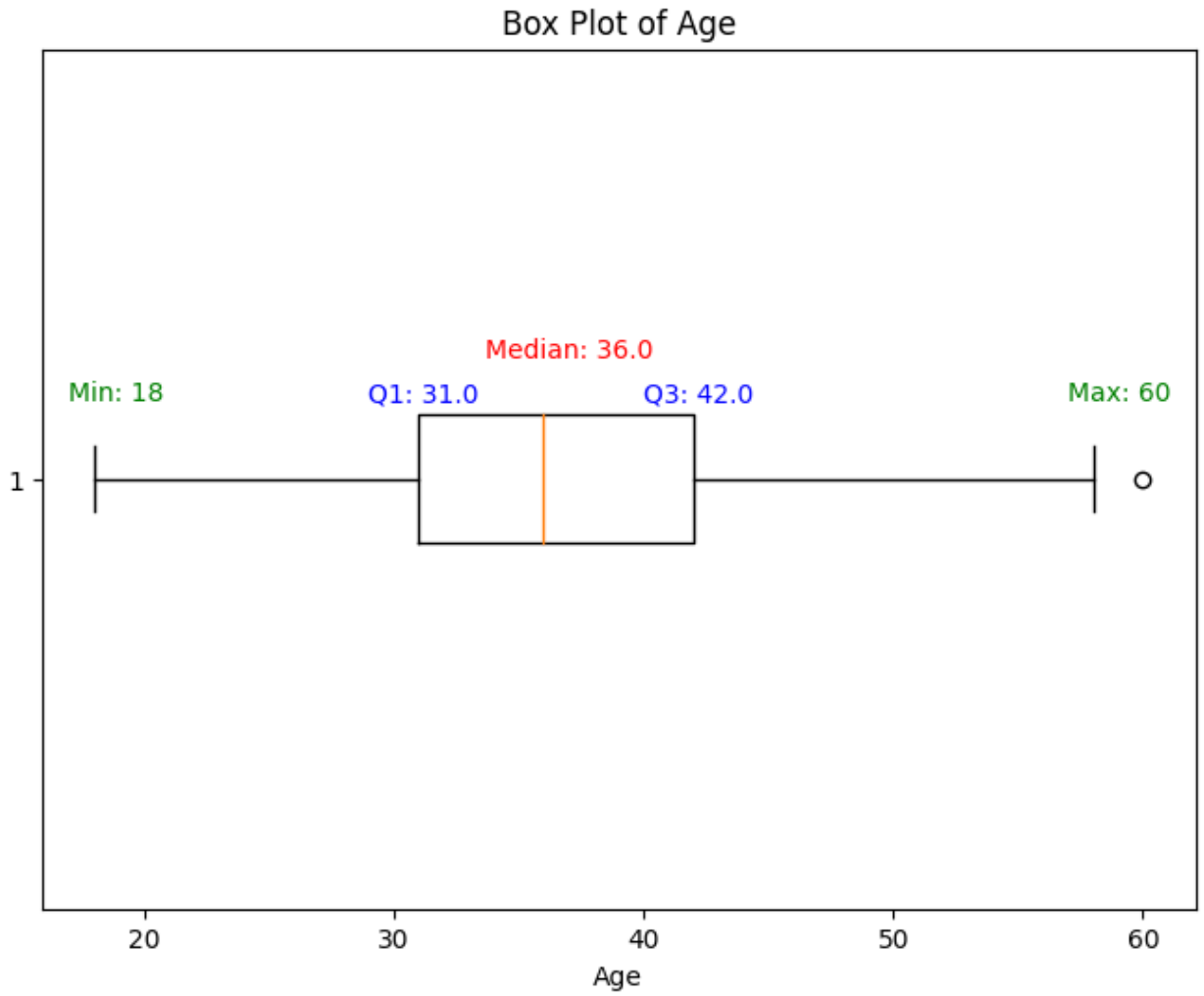



```
# Assuming df is your DataFrame and 'PercentSalaryHike' and
'Department' are the relevant columns
department_percent_salary_hike = df.groupby(['JobRole'],
as_index=False)['PercentSalaryHike'].sum()

# Set the figure size using Matplotlib
plt.figure(figsize=(10, 6))
colors = ['blue', 'green', 'orange', 'red', 'purple', 'cyan',
'magenta', 'yellow', 'brown', 'pink']
# Create the bar plot using Matplotlib
plt.bar(department_percent_salary_hike['JobRole'],
department_percent_salary_hike['PercentSalaryHike'], color=colors)

# Add labels for axes and a title
plt.xlabel('JobRole')
plt.ylabel('Percent Salary Hike')
plt.title('Average Percent Salary Hike by JobRole')

# Rotate the x-axis labels for better readability (optional)
plt.xticks(rotation=45)

# Display the plot
# plt.tight_layout()
plt.show()
```



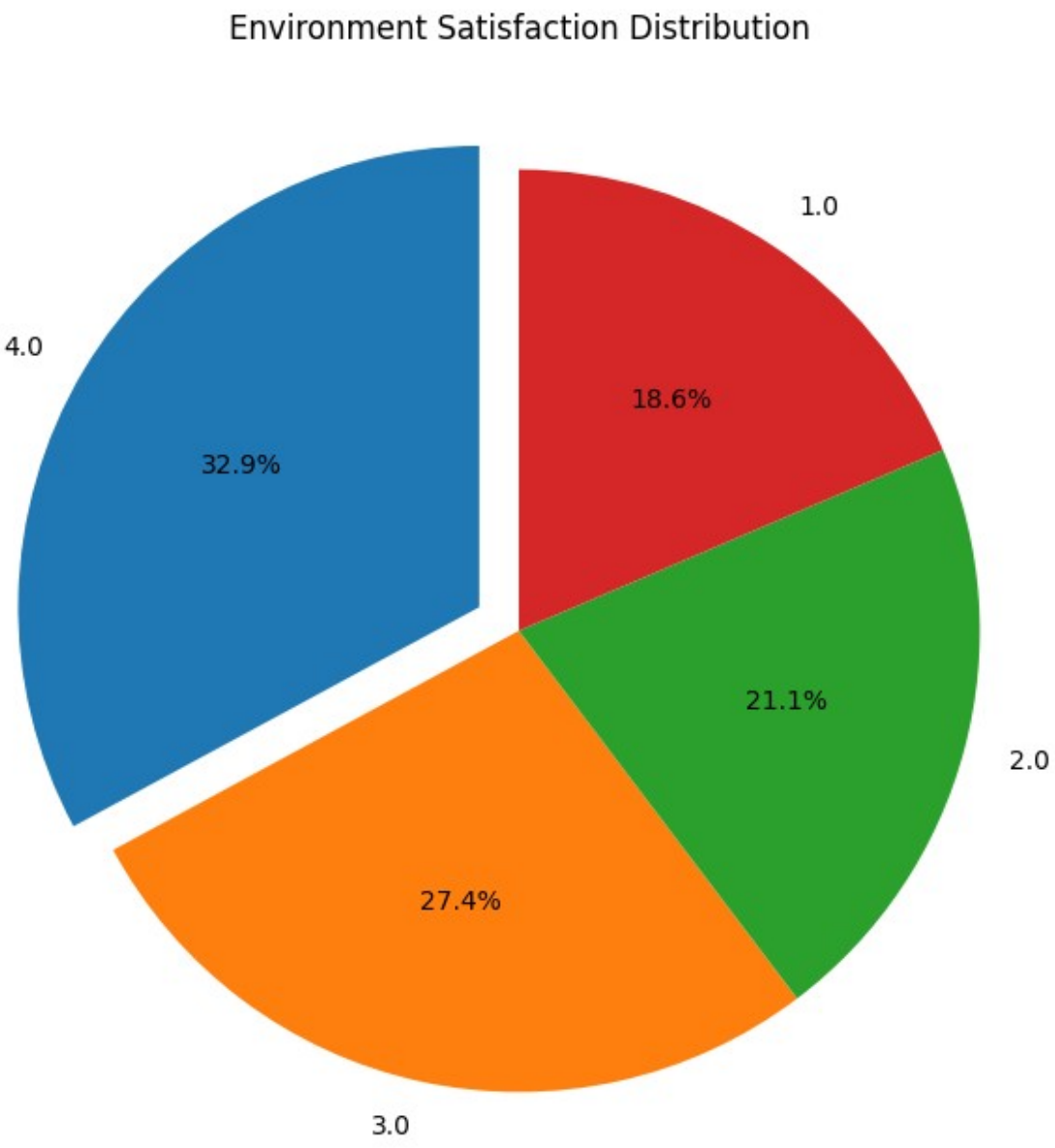

```
# Calculate statistics
q1 = df['Age'].quantile(0.25)
q3 = df['Age'].quantile(0.75)
median = df['Age'].median()
minimum = df['Age'].min()
maximum = df['Age'].max()

# Create the box plot using Matplotlib
plt.figure(figsize=(8, 6))
plt.boxplot(df['Age'], vert=False)  # 'vert=False' to make it a
horizontal box plot
plt.xlabel('Age')
plt.title('Box Plot of Age')

# Add text annotations for the statistics
plt.text(q1 -2, 1.1, f'Q1: {q1}', verticalalignment='center',
color='blue')
plt.text(q3 -2, 1.1, f'Q3: {q3}', verticalalignment='center',
color='blue')
plt.text(median - 2.3, 1.15, f'Median: {median}',
```

```
verticalalignment='center', color='red')
plt.text(maximum -3, 1.1, f'Max: {maximum}',
verticalalignment='center', color='green')
plt.text(minimum -1 , 1.1, f'Min: {minimum}',
verticalalignment='center', color='green')

plt.show()
```



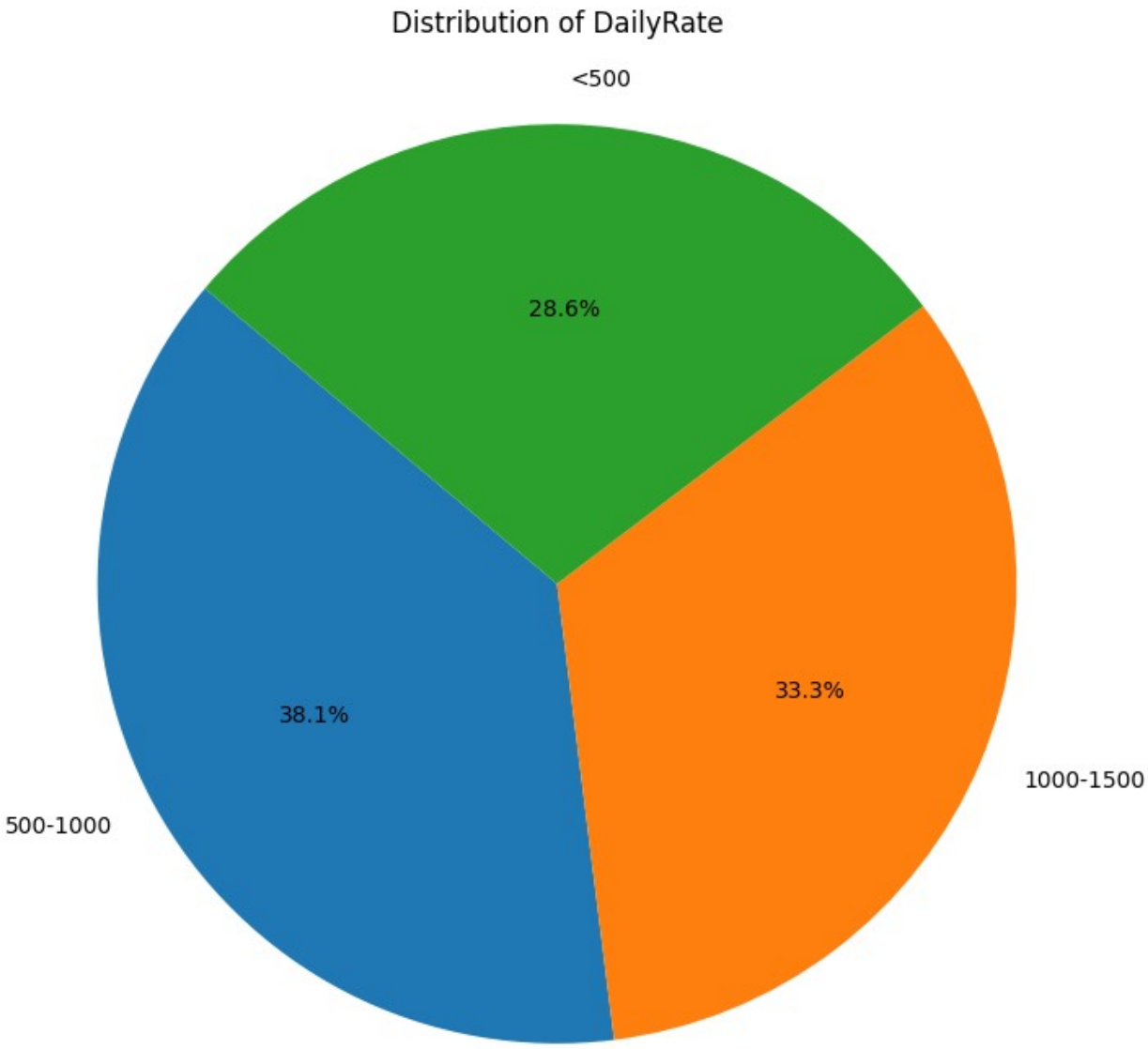

```
# Count occurrences of each age group
EnvironmentSatisfaction = df['EnvironmentSatisfaction'].value_counts()
myexp=[0.1,0,0,0]
# Create a pie chart
plt.figure(figsize=(8, 8))
plt.pie(age_counts, labels=EnvironmentSatisfaction.index,
autopct='%1.1f%%', startangle=90,explode=myexp)

# Add a title
```

```
plt.title('Environment Satisfaction Distribution')

# Display the pie chart
plt.show()
```



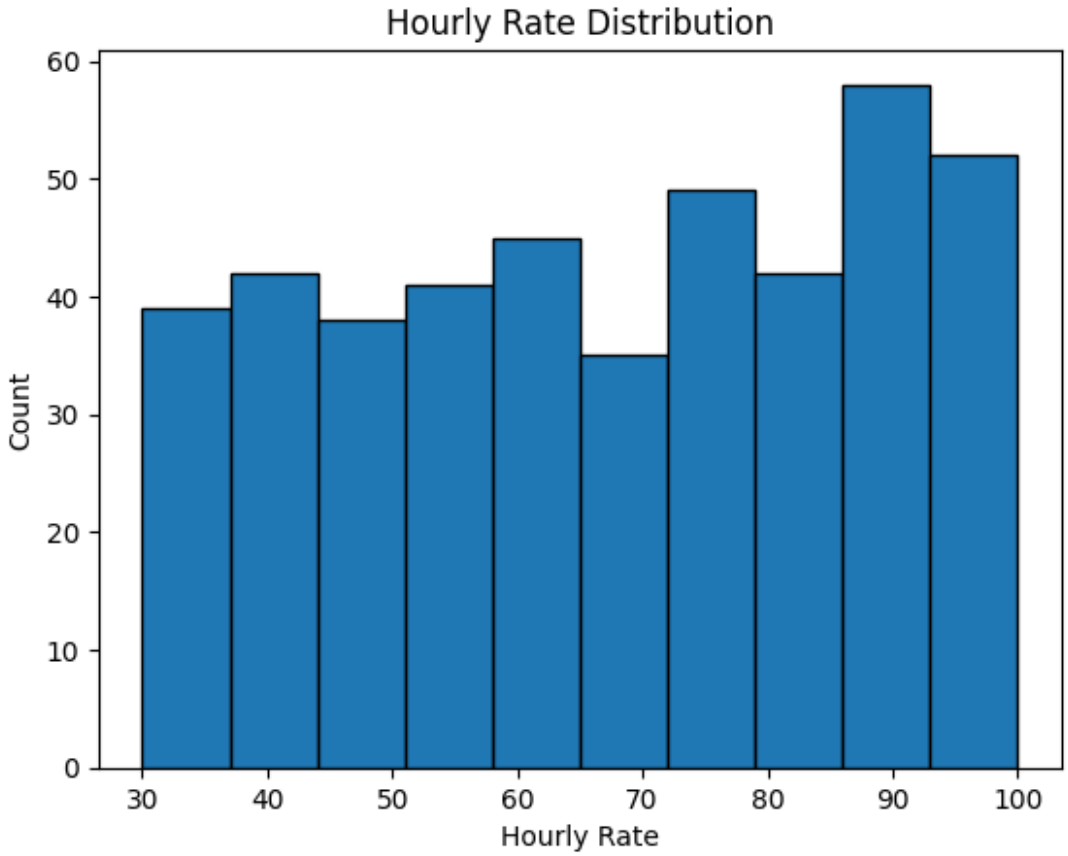

```
import matplotlib.pyplot as plt

# Assuming you have your dataset stored in a variable named 'data'
daily_rate_data = df['DailyRate']

# Define the bins or categories for the 'DailyRate' data
```

```
# You can customize these bins based on your data distribution
# For example, the following bins divide the 'DailyRate' into 4 categories
# You can adjust the bin values to better represent your data
bins = [100, 500, 1000, 1500]  # Adjust the values based on your data distribution

# Use the 'cut' function to assign each 'DailyRate' value to a specific category
daily_rate_categories = pd.cut(daily_rate_data, bins=bins, labels=['<500', '500-1000', '1000-1500'])

# Calculate the count of each category
category_counts = daily_rate_categories.value_counts()

# Create a pie chart using Matplotlib
plt.figure(figsize=(8, 8))
plt.pie(category_counts, labels=category_counts.index, autopct='%1.1f%%', startangle=140)
plt.title('Distribution of DailyRate',pad=22)
plt.axis('equal')  # Equal aspect ratio ensures that the pie chart is circular.
plt.show()
```

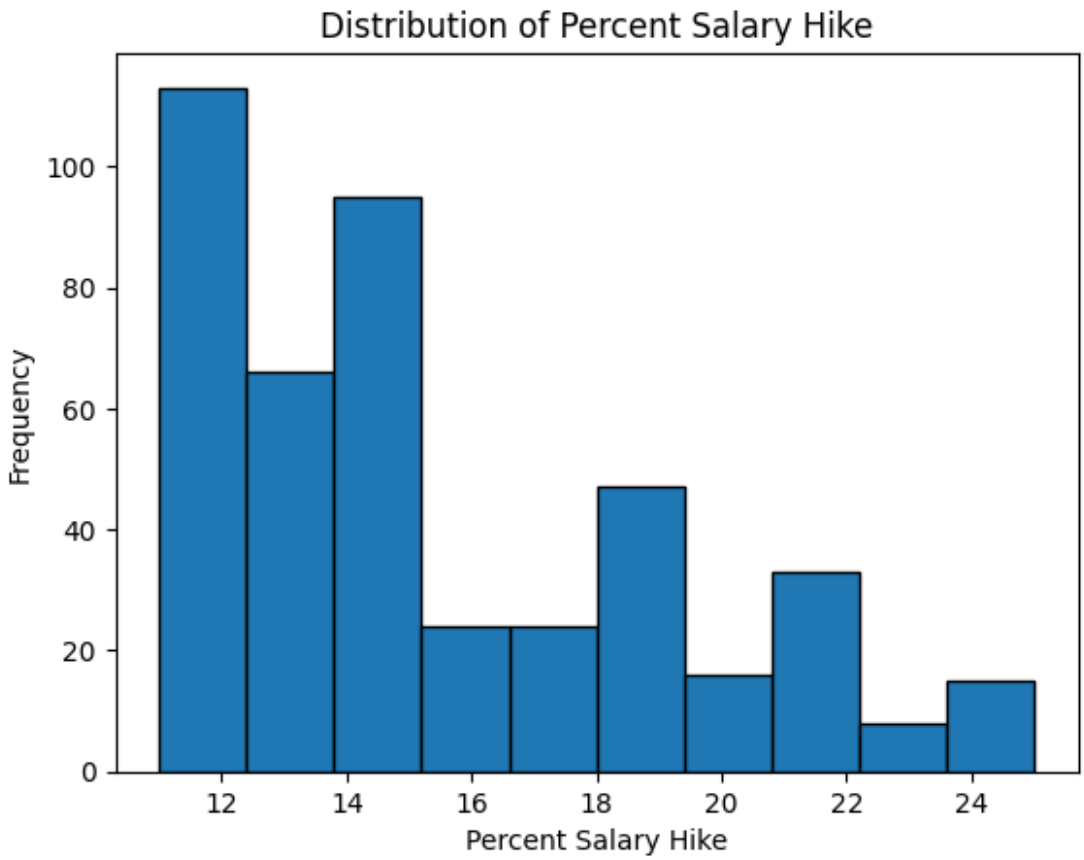



```
hourly_rate_data = df['HourlyRate']

# Calculate the number of bins (slices) you want in the pie chart
num_bins = 10

# Set up the histogram using plt.hist()
# We use the bins parameter to specify the number of bins (slices) in
the pie chart
# The histtype parameter is set to 'bar' to display the pie chart as
bars instead of a traditional histogram
plt.hist(hourly_rate_data, bins=num_bins, histtype='bar',
edgecolor='black')

# Add labels and title
```

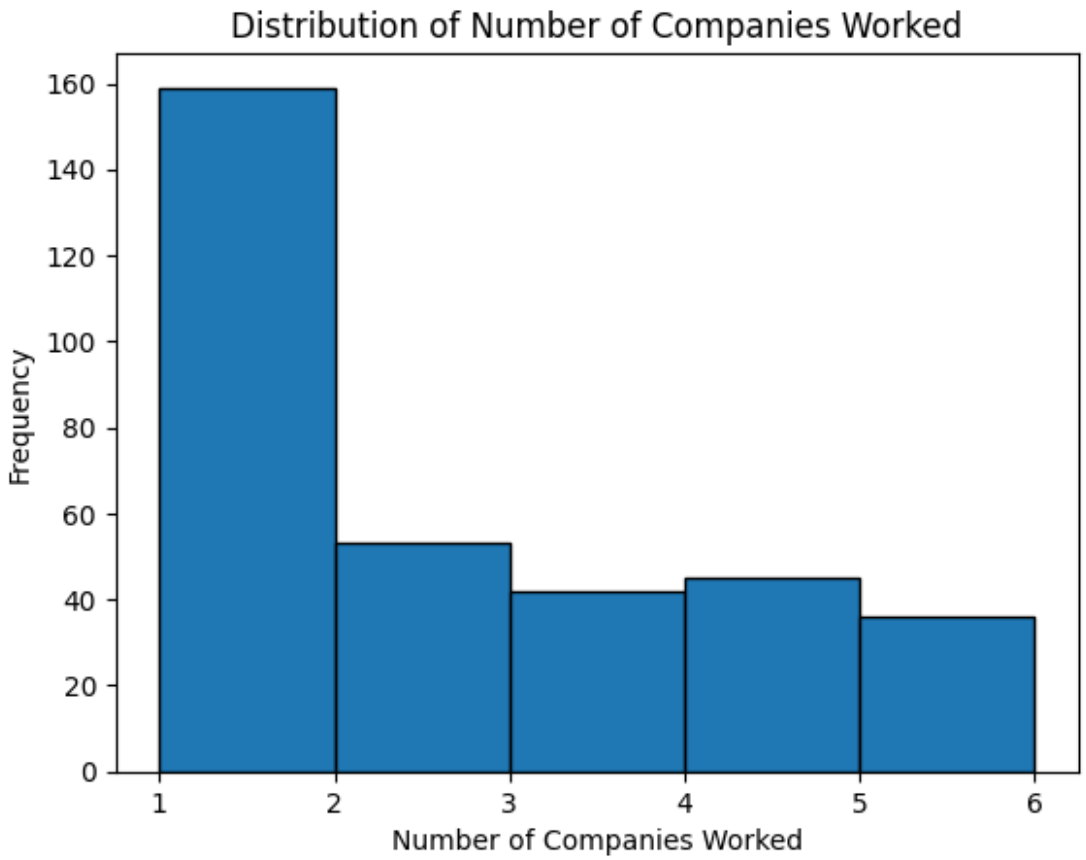
```
plt.xlabel('Hourly Rate')
plt.ylabel('Count')
plt.title('Hourly Rate Distribution')

# Display the pie chart
plt.show()
```



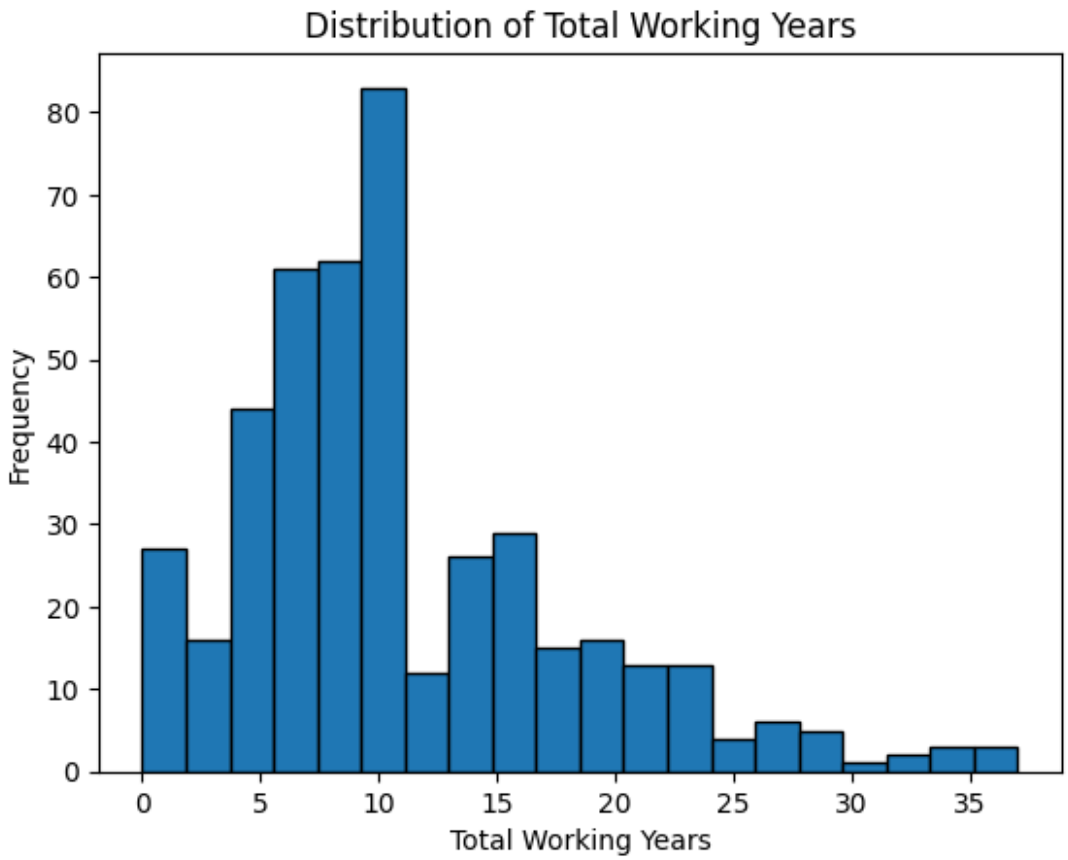

```
import matplotlib.pyplot as plt

# Your dataset's 'PercentSalaryHike' column data goes here (example data):
percent_salary_hike_data = df['PercentSalaryHike']

# Create the histogram
plt.hist(percent_salary_hike_data, bins=10, edgecolor='black')

# Set labels and title
plt.xlabel('Percent Salary Hike')
plt.ylabel('Frequency')
plt.title('Distribution of Percent Salary Hike')

# Display the histogram
plt.show()
```



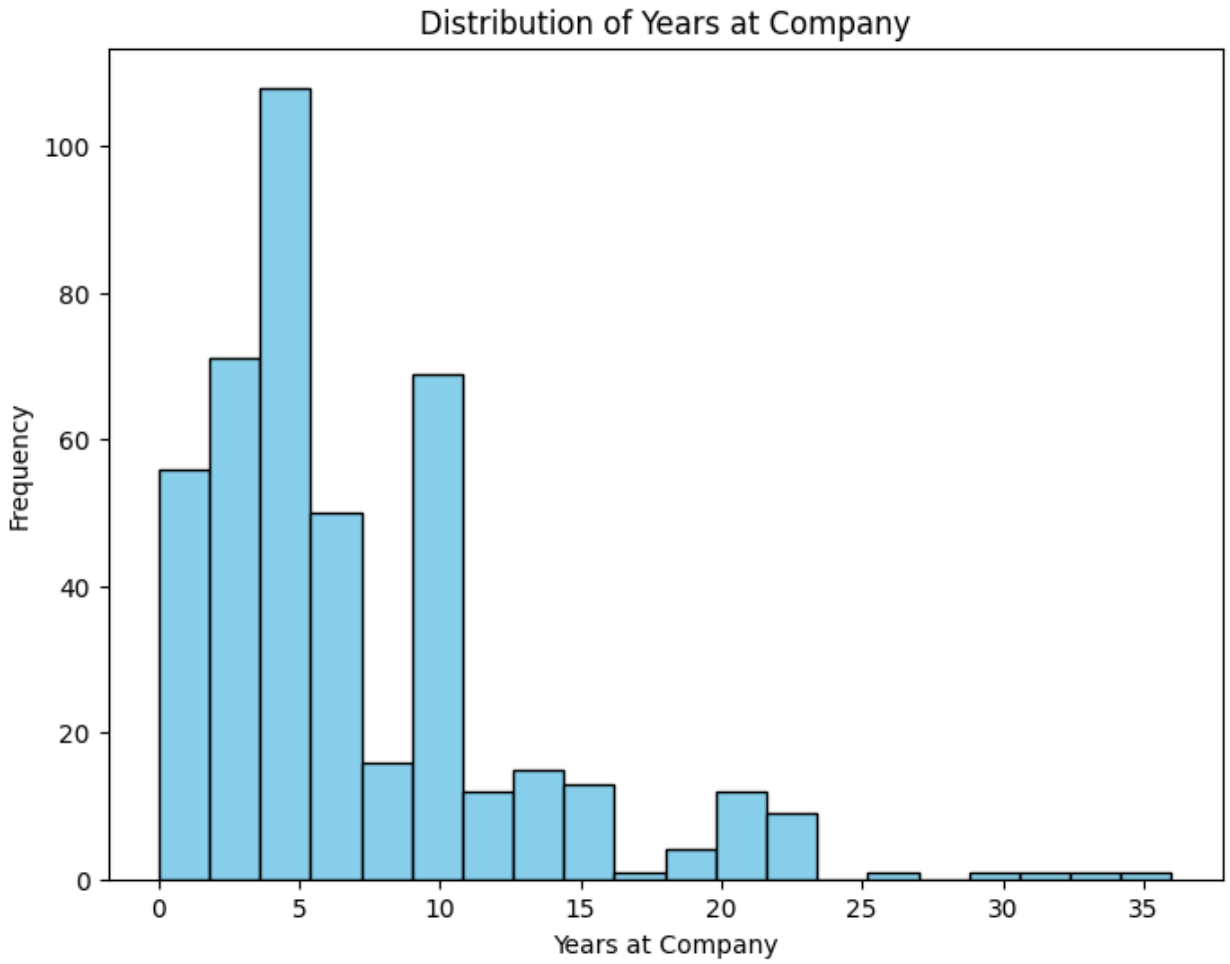

```
# Sample data (replace this with your actual data)
num_companies_worked = df['NumCompaniesWorked']

# Create a histogram
plt.hist(num_companies_worked, bins=range(1, 7), edgecolor='black')

# Add labels and title
plt.xlabel('Number of Companies Worked')
plt.ylabel('Frequency')
plt.title('Distribution of Number of Companies Worked')

# Show the plot
plt.show()
```




```python
import matplotlib.pyplot as plt

# Assuming your dataset is stored in a variable called 'df'
# Replace 'df' with your actual DataFrame variable name

# Extract the 'TotalWorkingYears' column from the DataFrame
total_working_years = df['TotalWorkingYears']

# Create the histogram
plt.hist(total_working_years, bins=20, edgecolor='black')

# Add labels and title
plt.xlabel('Total Working Years')
plt.ylabel('Frequency')
plt.title('Distribution of Total Working Years')

# Show the plot
plt.show()
```




```
# Extract the 'YearsAtCompany' column from the DataFrame
years_at_company = df['YearsAtCompany']

# Set up the plot
plt.figure(figsize=(8, 6))
plt.hist(years_at_company, bins=20, color='skyblue',
edgecolor='black')

# Add labels and title
plt.xlabel('Years at Company')
plt.ylabel('Frequency')
plt.title('Distribution of Years at Company')

# Show the plot
plt.show()
```


Distribution of Years at Company
Frequency
Years at Company
0
20
40
60
80
100
0
5
10
15
20
25
30
35