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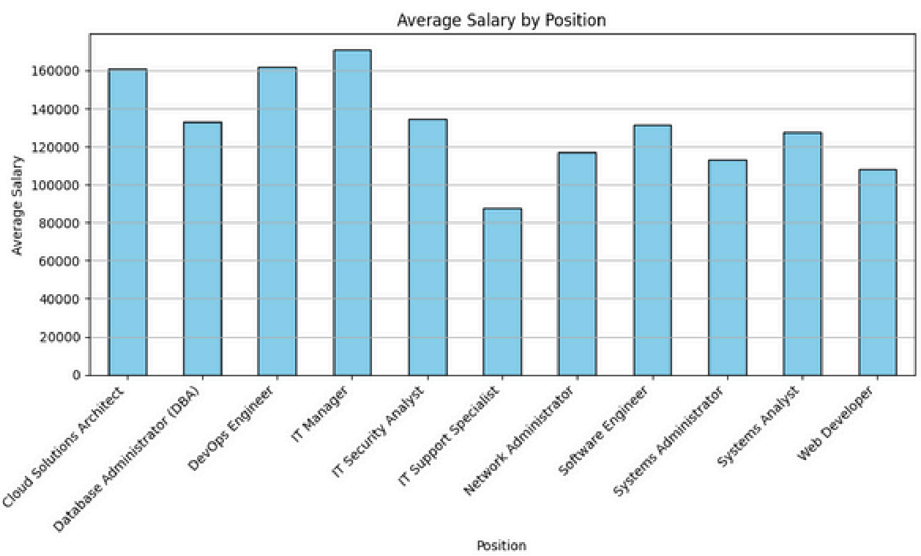
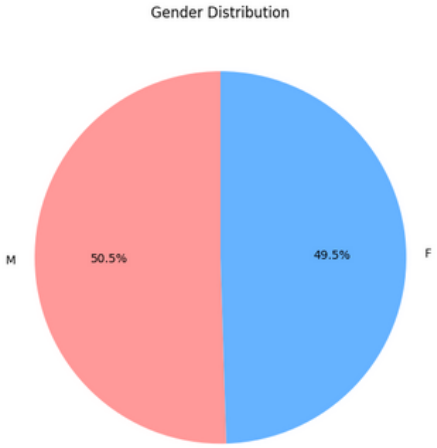
Subject : Data Visualization
Assignment : 2

Q: 1

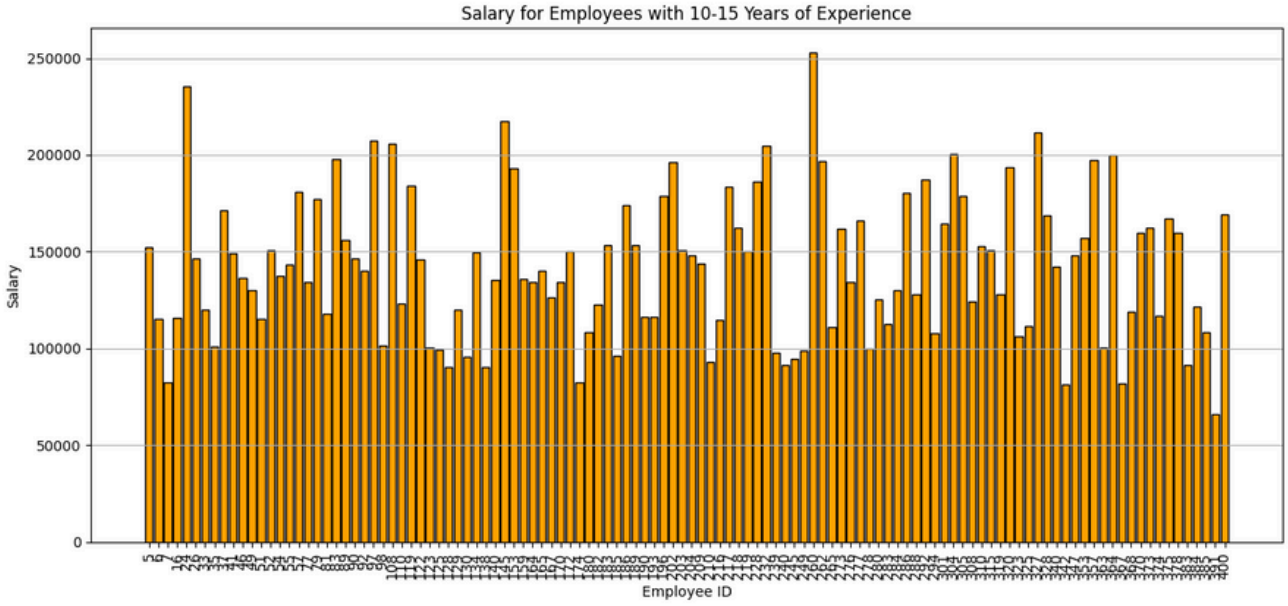
```
import pandas as pd
import matplotlib.pyplot as plt


file_path = r"D:\Data_Visualization\Assignment\employee_data.csv"
df = pd.read_csv(file_path)


print(df.head())

#OUTPUT:
#     ID   Gender    Experience (Years)    Position                 Salary
# 0   1    F         4                     DevOps Engineer          109976
# 1   2    M         6                     DevOps Engineer          120088
# 2   3    M         17                    Web Developer            181301
# 3   4    M         7                     Systems Administrator    77530
# 4   5    F         13                    Systems Administrator    152397


# 1. Average Salary of each Position
avg_salary_position = df.groupby('Position')['Salary'].mean()
plt.figure(figsize=(10, 6))
avg_salary_position.plot(kind='bar', edgecolor='black', color='skyblue')
plt.title('Average Salary by Position')
plt.xlabel('Position')
plt.ylabel('Average Salary')
plt.xticks(rotation=45, ha='right')
plt.grid(axis='y')
plt.tight_layout()
plt.show()
```



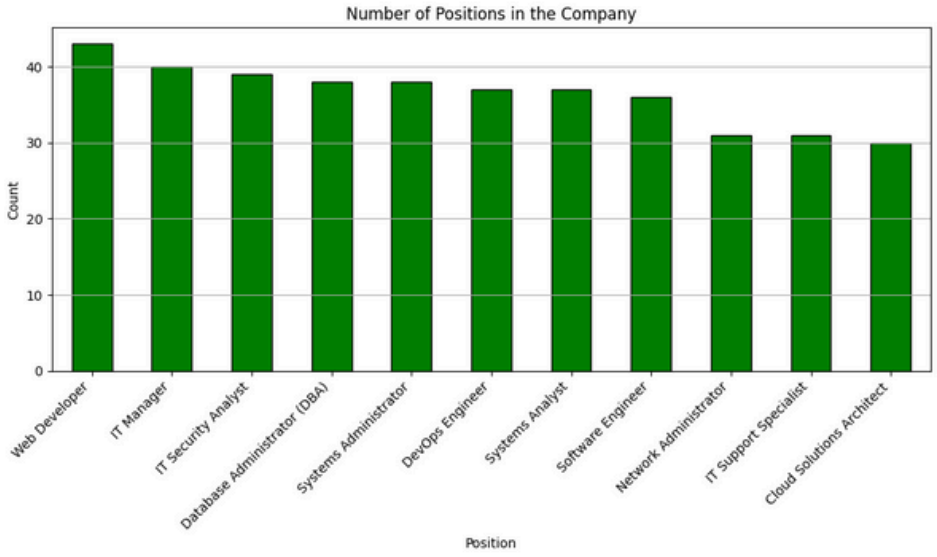
```
# 2. Total number of Male and Female employees
gender_count = df['Gender'].value_counts()
plt.figure(figsize=(6, 6))
gender_count.plot(kind='pie', autopct='%1.1f%%', startangle=90, colors=['#ff9999','#66b3ff'])
plt.title('Gender Distribution')
plt.ylabel('')
plt.tight_layout()
plt.show()
```



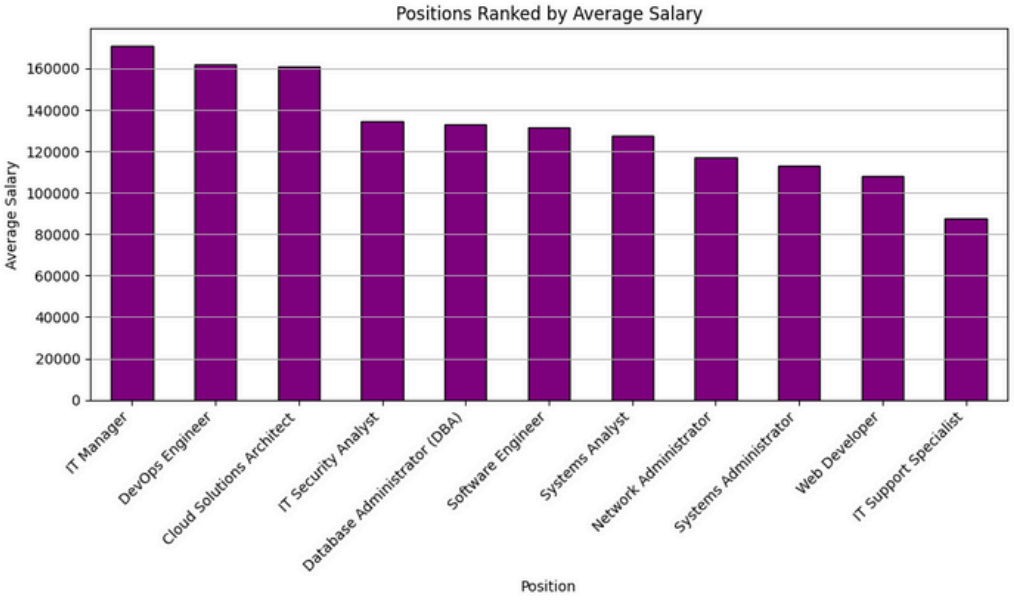

```
# 3. Salary for employees with 10-15 years of experience
exp_salary = df[(df['Experience (Years)'] >= 10) & (df['Experience (Years)'] <= 15)]
plt.figure(figsize=(12, 6))
plt.bar(exp_salary['ID'].astype(str), exp_salary['Salary'], color='orange', edgecolor='black')
plt.title('Salary for Employees with 10-15 Years of Experience')
plt.xlabel('Employee ID')
plt.ylabel('Salary')
plt.xticks(rotation=90)
plt.grid(axis='y')
plt.tight_layout()
plt.show()
```



```
# 4. Number of positions in the company
position_count = df['Position'].value_counts()
plt.figure(figsize=(10, 6))
position_count.plot(kind='bar', color='green', edgecolor='black')
plt.title('Number of Positions in the Company')
plt.xlabel('Position')
plt.ylabel('Count')
plt.xticks(rotation=45, ha='right')
plt.grid(axis='y')
plt.tight_layout()
plt.show()
```




```
# 5. Which position is better in terms of salary
sorted_salary_position = avg_salary_position.sort_values(ascending=False)
plt.figure(figsize=(10, 6))
sorted_salary_position.plot(kind='bar', color='purple', edgecolor='black')
plt.title('Positions Ranked by Average Salary')
plt.xlabel('Position')
plt.ylabel('Average Salary')
plt.xticks(rotation=45, ha='right')
plt.grid(axis='y')
plt.tight_layout()
plt.show()
```



```
print("\nAverage Salary by Position:\n", avg_salary_position)
print("\nGender Count:\n", gender_count)
print("\nEmployees with 10-15 Years Experience:\n", exp_salary[['ID', 'Experience (Years)', 'Salary']])
print("\nNumber of Positions:\n", position_count)
```

#OUTPUT:

Average Salary by Position:

Position	
Cloud Solutions Architect	160841.633333
Database Administrator (DBA)	132864.552632
DevOps Engineer	161859.081081
IT Manager	170711.550000
IT Security Analyst	134440.820513
IT Support Specialist	87683.806452
Network Administrator	116865.064516
Software Engineer	131357.416667
Systems Administrator	113117.447368
Systems Analyst	127658.189189
Web Developer	108238.116279