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

data = pd.read_csv("/content/amazon_prime_users.csv")


#Convert date columns to datetime format
data['Date of Birth'] = pd.to_datetime(data['Date of Birth'], errors='coerce')
data['Membership Start Date'] = pd.to_datetime(data['Membership Start Date'], errors='coerce')
data['Membership End Date'] = pd.to_datetime(data['Membership End Date'], errors='coerce')
```

```
<ipython-input-3-b8c3927fa64b>:3: UserWarning: Parsing dates in %d-%m-%Y format when dayfirst=False (the default) was specified. Pas
  data['Membership Start Date'] = pd.to_datetime(data['Membership Start Date'], errors='coerce')
<ipython-input-3-b8c3927fa64b>:4: UserWarning: Parsing dates in %d-%m-%Y format when dayfirst=False (the default) was specified. Pas
  data['Membership End Date'] = pd.to_datetime(data['Membership End Date'], errors='coerce')
```

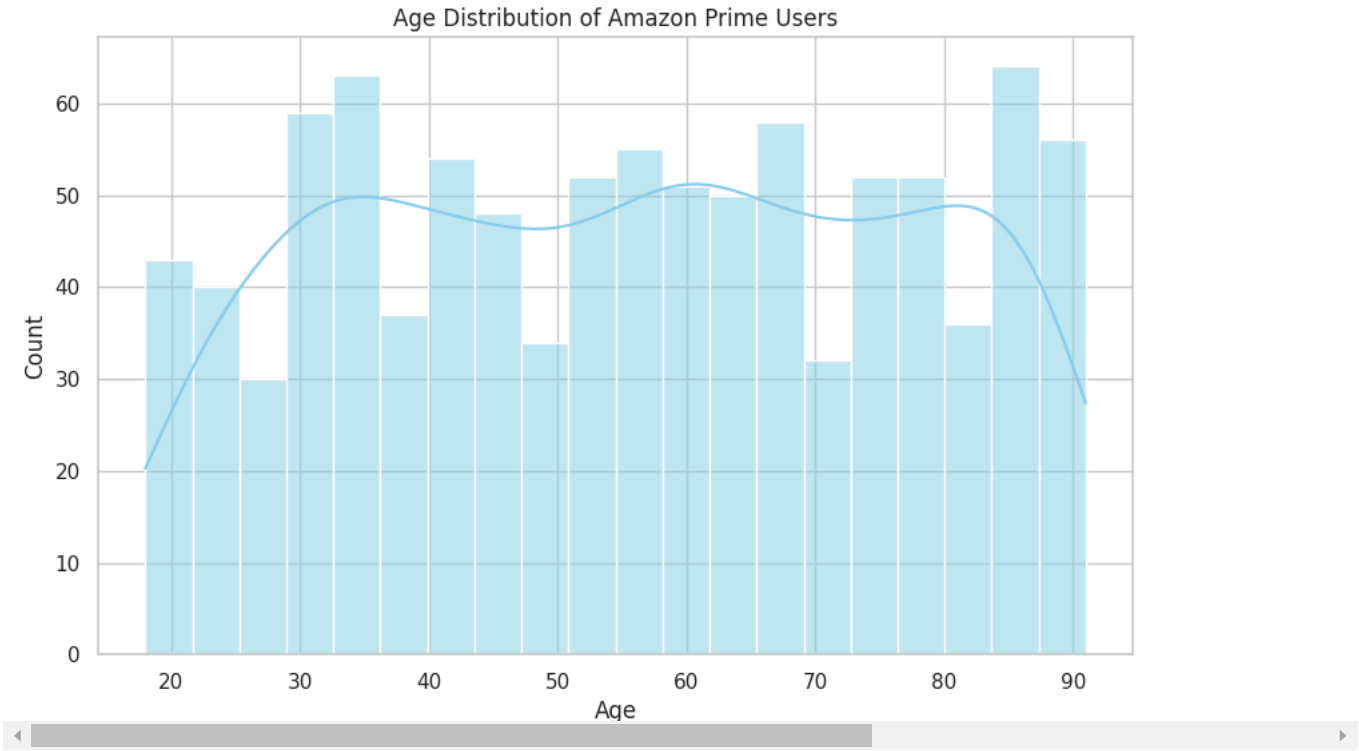
```
# Feature Engineering: Create 'Age' and 'Membership Duration' columns
current_year = pd.to_datetime("today").year
data['Age'] = current_year - data['Date of Birth'].dt.year
data['Membership Duration'] = (data['Membership End Date'] - data['Membership Start Date']).dt.days


# Visualizations

# Set plot style
sns.set(style="whitegrid")

# 1. Age Distribution of Users
plt.figure(figsize=(10,6))
sns.histplot(data['Age'], bins=20, kde=True, color='skyblue')
plt.title('Age Distribution of Amazon Prime Users')
plt.xlabel('Age')
```

```
Text(0.5, 0, 'Age')
```

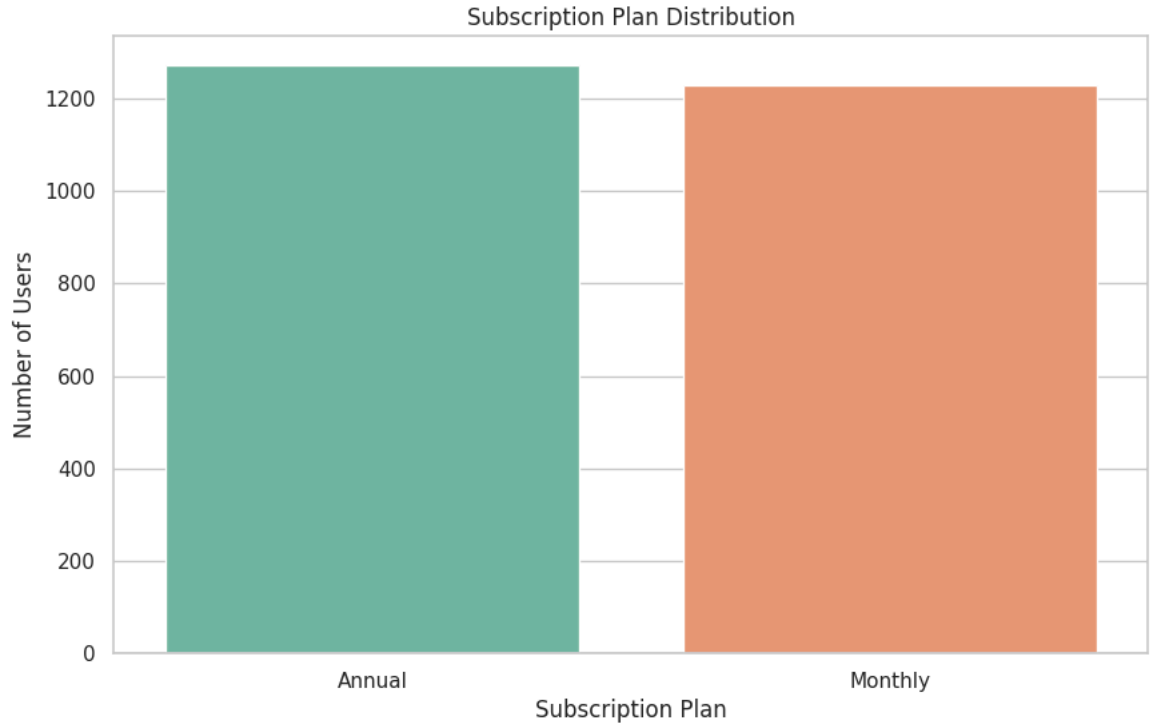



```
# 2. Subscription Plan Distribution
plt.figure(figsize=(10,6))
sns.countplot(x='Subscription Plan', data=data, palette='Set2')
plt.title('Subscription Plan Distribution')
plt.xlabel('Subscription Plan')
plt.ylabel('Number of Users')
plt.show()
```

```
<ipython-input-6-8b584245738d>:3: FutureWarning:

Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `x` variable to `hue` and set `le

  sns.countplot(x='Subscription Plan', data=data, palette='Set2')
/usr/local/lib/python3.10/dist-packages/seaborn/_base.py:949: FutureWarning: When grouping with a length-1 list-like, you will need
  data_subset = grouped_data.get_group(pd_key)
/usr/local/lib/python3.10/dist-packages/seaborn/_base.py:949: FutureWarning: When grouping with a length-1 list-like, you will need
  data_subset = grouped_data.get_group(pd_key)
```




```
# 3. Feedback Ratings vs Engagement Metrics
plt.figure(figsize=(10,6))
sns.boxplot(x='Engagement Metrics', y='Feedback/Ratings', data=data, palette='muted')
plt.title('Feedback Ratings vs Engagement Metrics')
plt.xlabel('Engagement Metrics')
plt.ylabel('Feedback Ratings')
plt.show()
```

```
<ipython-input-7-de3907a811c1>:3: FutureWarning:

Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `x` variable to `hue` and set `le

  sns.boxplot(x='Engagement Metrics', y='Feedback/Ratings', data=data, palette='muted')
/usr/local/lib/python3.10/dist-packages/seaborn/_base.py:949: FutureWarning: When grouping with a length-1 list-like, you will need
  data_subset = grouped_data.get_group(pd_key)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:640: FutureWarning: SeriesGroupBy.grouper is deprecated and will be r
  positions = grouped.grouper.result_index.to_numpy(dtype=float)
/usr/local/lib/python3.10/dist-packages/seaborn/_base.py:949: FutureWarning: When grouping with a length-1 list-like, you will need
  data_subset = grouped_data.get_group(pd_key)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:640: FutureWarning: SeriesGroupBy.grouper is deprecated and will be r
  positions = grouped.grouper.result_index.to_numpy(dtype=float)
/usr/local/lib/python3.10/dist-packages/seaborn/_base.py:949: FutureWarning: When grouping with a length-1 list-like, you will need
```

```
# 4. Customer Support Interactions vs Feedback Ratings
plt.figure(figsize=(10,6))
sns.scatterplot(x='Customer Support Interactions', y='Feedback/Ratings', hue='Subscription Plan', data=data, palette='Set1')
plt.title('Customer Support Interactions vs Feedback Ratings')
plt.xlabel('Customer Support Interactions')
plt.ylabel('Feedback Ratings')
plt.show()
```