Key_5

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

# Load the dataset
data_url = 'https://archive.ics.uci.edu/dataset/73/mushroom'
df = pd.read_csv(data_url)

# Explore the dataset
print(df.head())  # Display the first few rows of the dataset
print(df.info())  # Get information about the dataset

# Data visualization

# Countplot of mushroom classes (e: edible, p: poisonous)
plt.figure(figsize=(8, 6))
sns.countplot(x='class', data=df)
plt.title('Count of Mushroom Classes')
plt.xlabel('Class')
plt.ylabel('Count')
plt.show()

# Pie chart of cap shapes
plt.figure(figsize=(8, 6))
df['cap-shape'].value_counts().plot.pie(autopct='%1.1f%%', startangle=90)
plt.title('Distribution of Cap Shapes')
plt.axis('equal')
plt.show()

# Bar plot of cap colors by mushroom class
plt.figure(figsize=(10, 6))
sns.countplot(x='cap-color', hue='class', data=df)
plt.title('Count of Cap Colors by Mushroom Class')
plt.xlabel('Cap Color')
plt.ylabel('Count')
plt.legend(title='Class')
plt.show()

# Box plot of stalk length by mushroom class
plt.figure(figsize=(8, 6))
sns.boxplot(x='class', y='stalk-length', data=df)
plt.title('Stalk Length by Mushroom Class')
plt.xlabel('Class')
plt.ylabel('Stalk Length')
plt.show()

# Pairplot of selected features
selected_features = ['class', 'cap-shape', 'cap-color', 'odor', 'gill-color']
sns.pairplot(df[selected_features], hue='class')
plt.title('Pairplot of Selected Features')
plt.show()
```