

## PRACTICAL 09

```
import pandas as pd
import seaborn as sns
```

```
import matplotlib.pyplot as plt
```

```
# Load the dataset
```

```
df = pd.read_csv("Titanic.csv") # Ensure this file is correctly placed
```

```
# Standardize column names (strip spaces)
```

```
df.columns = df.columns.str.strip()
```

```
# Convert 'Age' to a numeric type (handle missing values)
```

```
df['Age'] = pd.to_numeric(df['Age'], errors='coerce')
```

```
# Drop rows where 'Age' is NaN
```

```
df = df.dropna(subset=['Age'])
```

```
# Check if required columns exist
```

```
if {'Sex', 'Age', 'Survived'}.issubset(df.columns):
```

```
    plt.figure(figsize=(10, 6))
```

```
    # Box plot for Age distribution by Sex and Survival
```

```
    sns.boxplot(x='Sex', y='Age', hue='Survived', data=df, palette="Set2")
```

```
    plt.xlabel("Gender")
```

```
    plt.ylabel("Age")
```

```
    plt.title("Age Distribution by Gender and Survival Status")
```

```
    plt.legend(title="Survived", labels=["No (0)", "Yes (1)"])
```

```
    plt.show()
```

```
else:
```

```
    print("One or more required columns ('Sex', 'Age', 'Survived') are missing in the dataset.")
```

**OUTPUT:**

