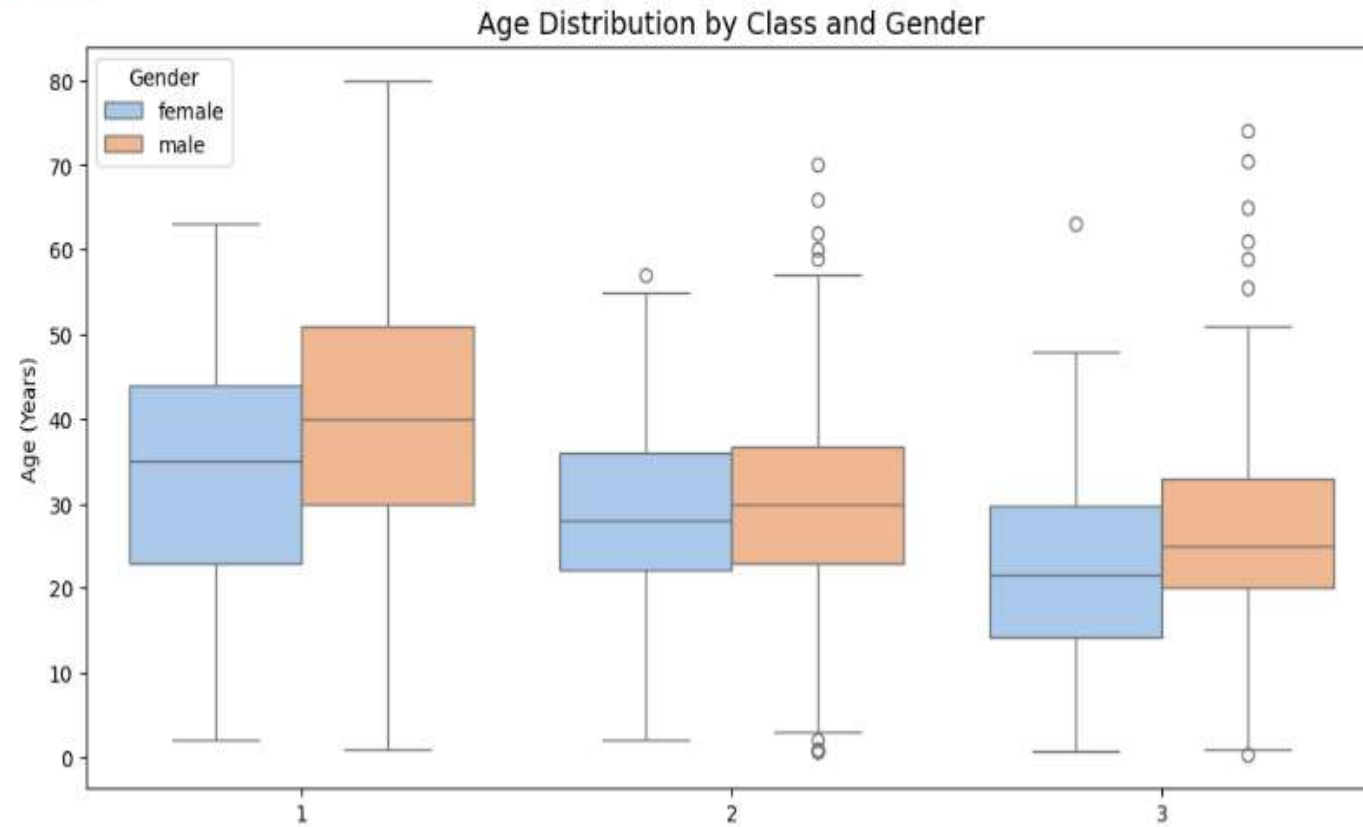


```
[3]: plt.figure(figsize=(12, 6))
sns.boxplot(data=data, x='Pclass', y='Age', hue='Sex', palette='pastel')
plt.title('Age Distribution by Class and Gender', fontsize=14)
plt.xlabel('Passenger Class')
plt.ylabel('Age (Years)')
plt.legend(title='Gender')
plt.show()
```

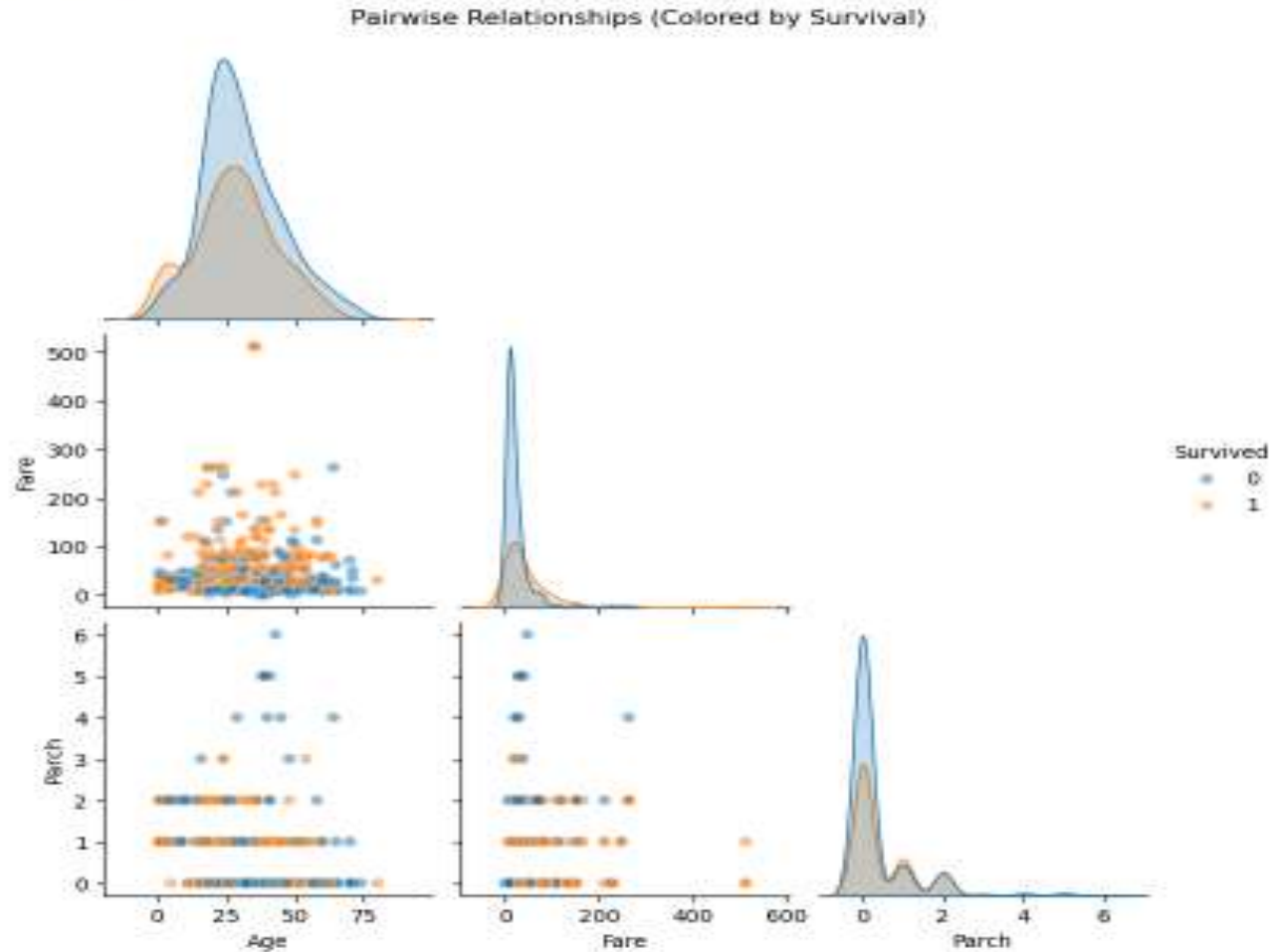


# BOXPLOT



Females in 1st/2nd class were younger than males in the same classes.

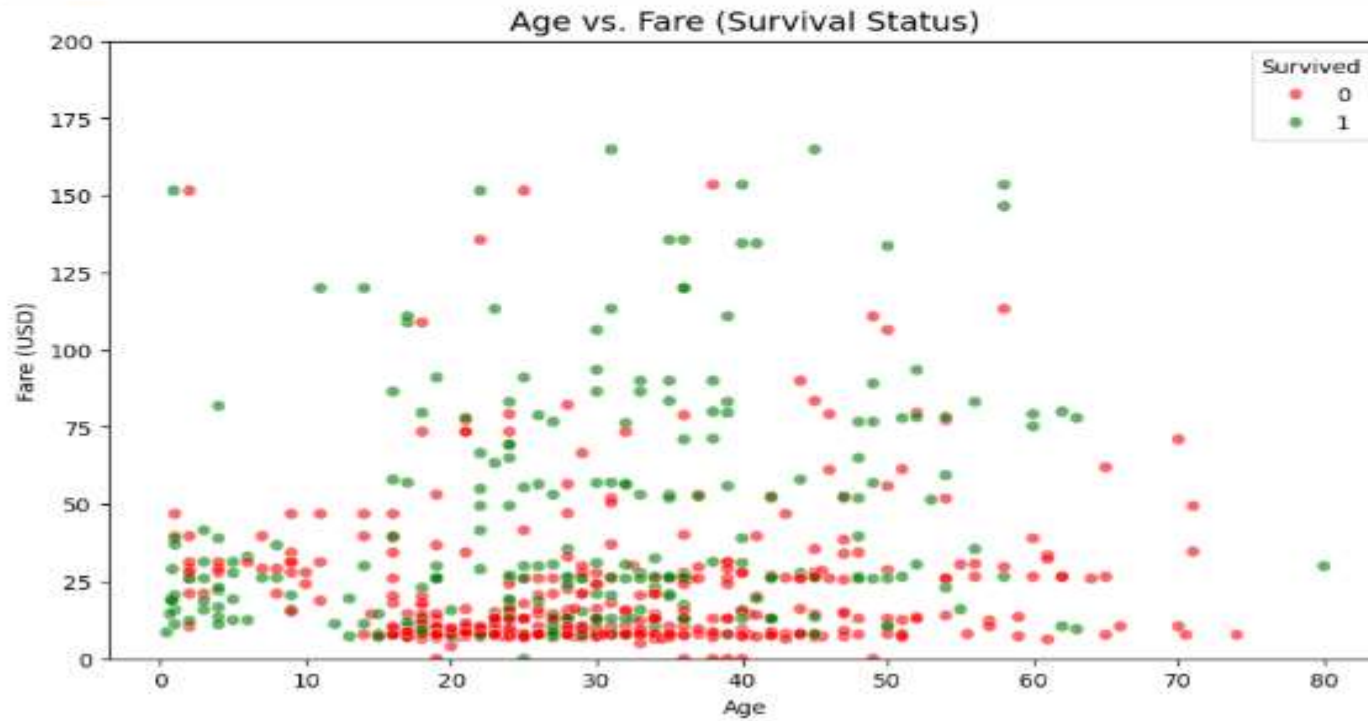
```
[44]: sns.pairplot(data=data, vars=['Age', 'Fare', 'Parch'],  
             hue='Survived', corner=True, plot_kws={'alpha':0.5})  
plt.suptitle('Pairwise Relationships (Colored by Survival)', y=1.02)  
plt.show()
```



# PAIRWISE SCATTERPL OTS

- Shows all combinations of relationships in one grid.

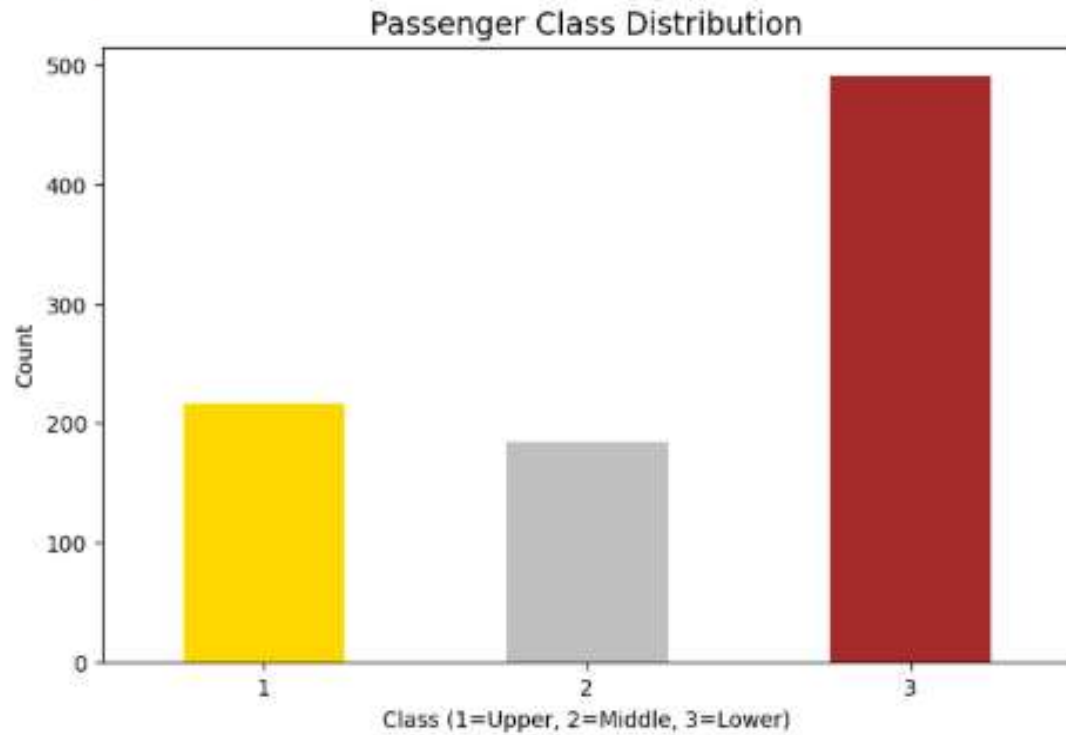
```
[43]: plt.figure(figsize=(10, 6))
sns.scatterplot(data=data, x='Age', y='Fare', hue='Survived',
               palette=[0:'red', 1:'green'], alpha=0.6)
plt.title('Age vs. Fare (Survival Status)', fontsize=14)
plt.xlabel('Age')
plt.ylabel('Fare (USD)')
plt.ylim(0, 200) # Focus on typical fares
plt.legend(title='Survived')
plt.show()
```



# SCATTERPLOTS

Younger passengers with higher fares had better survival rates

```
[42]: plt.figure(figsize=(8, 5))
data['Pclass'].value_counts().sort_index().plot(kind='bar', color=['gold', 'silver', 'brown'])
plt.title('Passenger Class Distribution', fontsize=14)
plt.xlabel('Class (1=Upper, 2=Middle, 3=Lower)')
plt.ylabel('Count')
plt.xticks(rotation=0)
plt.show()
```



# HISTOGRAM

Class wise passenger distribution