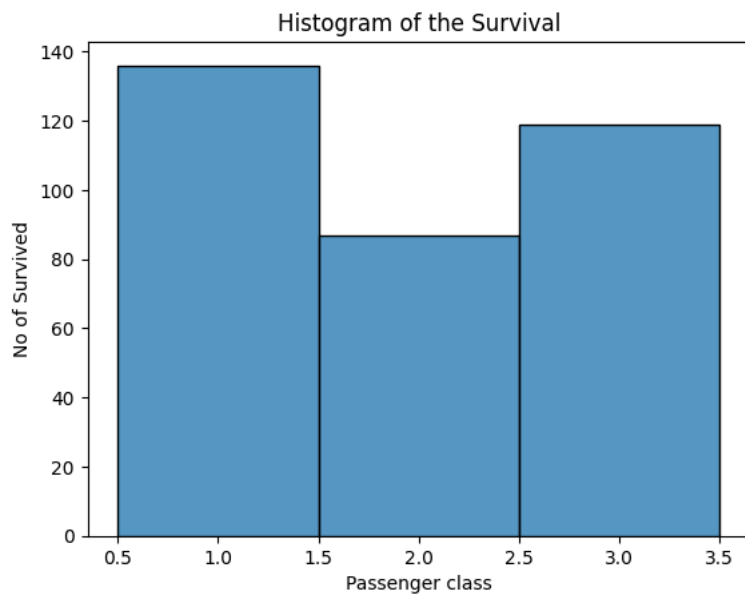```
import numpy as np
import seaborn as sns
import pandas as pd
import matplotlib.pyplot as plt
df=pd.read_csv('/content/2,1 dataset titanic (1).csv')
df.describe()
survived_passengers=df[df['Survived']==1]
sns.histplot(data=survived_passengers,x='Pclass',bins=range(1,5),discrete=True)
plt.title("Histogram of the Survival")
plt.xlabel("Passenger class")
plt.ylabel("No of Survived")
plt.show()
```



```
plt.figure(figsize=(12,6))
df.groupby('Cabin')['Fare'].mean().sort_values().plot(kind='bar',color='blue')
plt.title("Cabin vs Fare")
plt.xlabel("Cabin")
plt.ylabel("Fare")
plt.show()
```
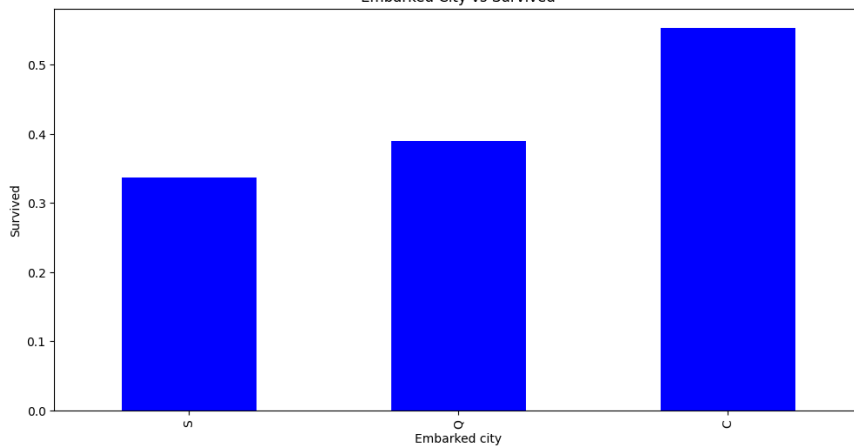
## Cabin vs Fare
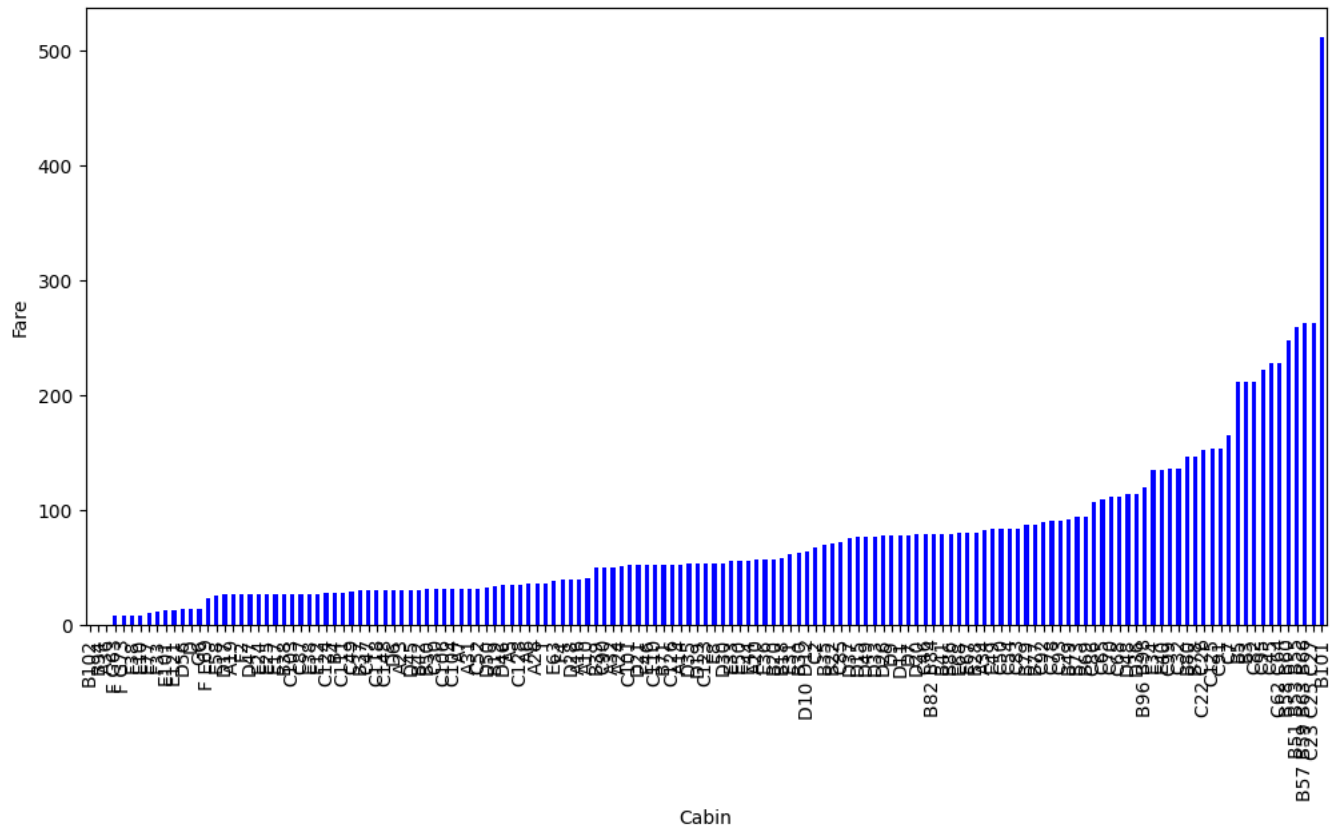


```
plt.figure(figsize=(12,6))
df.groupby('Embarked')['Survived'].mean().sort_values().plot(kind='bar',color='blue')
plt.xlabel("Embarked city")
plt.ylabel("Survived")
plt.title("Embarked City vs Survived")
plt.show()
```
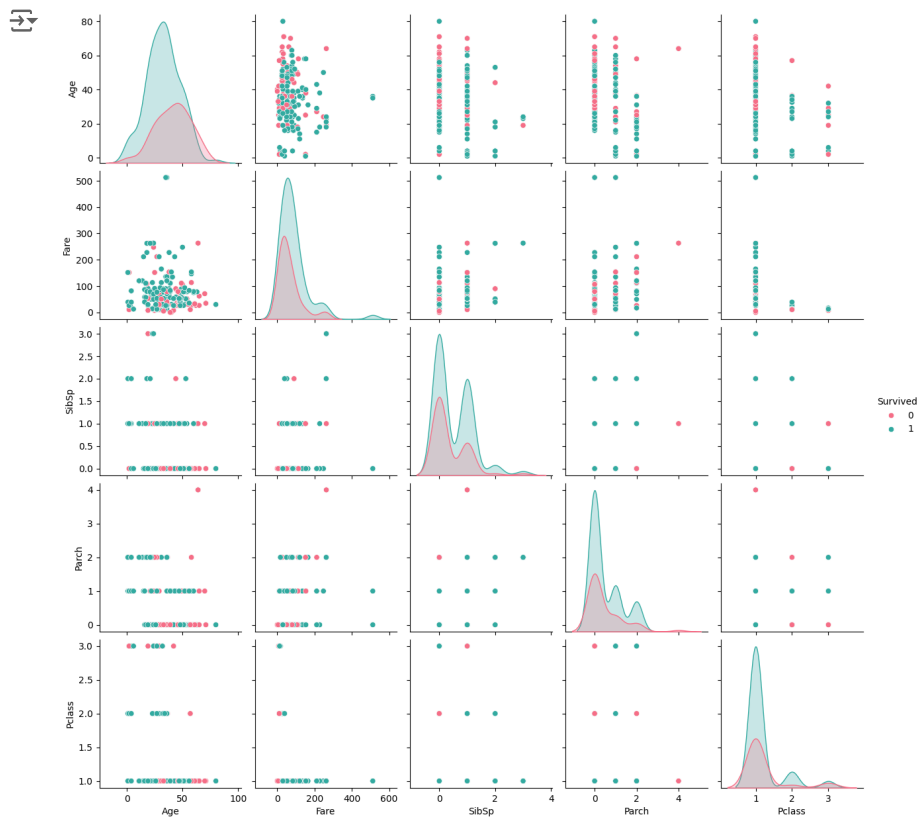
```
df=df.dropna()
numerical_features = ['Age', 'Fare', 'SibSp', 'Parch']
categorical_features = ['Survived', 'Pclass', 'Sex', 'Embarked']
selected_features = numerical_features + categorical_features
sns.pairplot(df[selected_features], hue='Survived', palette='husl')
plt.show()
```

```
corr_matrix = df.corr(numeric_only=True)
plt.figure(figsize=(12, 8))
sns.heatmap(corr_matrix, annot=True, cmap='coolwarm', fmt=".2f", annot_kws={"size": 10})
plt.title('Correlation Heatmap')
plt.show()
survived_corr = corr_matrix['Survived'].sort_values(ascending=False)
highly_correlated_features = survived_corr[abs(survived_corr) > 0.2].index.tolist()
print("Highly correlated features with 'Survived':")
print(survived_corr[abs(survived_corr) > 0.2])
```



```
corr_matrix = df.corr(numeric_only=True)
plt.figure(figsize=(12, 8))
sns.heatmap(corr_matrix, annot=True, cmap='coolwarm', fmt=".2f", annot_kws={"size": 10})
plt.title('Correlation Heatmap')
plt.show()
survived_corr = corr_matrix['Survived'].sort_values(ascending=False)
highly_correlated_features = survived_corr[abs(survived_corr) > 0.2].index.tolist()
print("Highly correlated features with 'Survived':")
print(survived_corr[abs(survived_corr) > 0.2])
```