Que 1: Name any five plots that we can plot using the Seaborn library. Also, state the uses of each plot.

1.Scatter Plot: Scatter plots are used to visualize the relationship between two continuous variables. They help in identifying patterns, clusters, or trends in the data.

2.Line Plot: Line plots are ideal for displaying data points in a time series or sequential data. They are useful for showing trends and changes over time.

3.Bar Plot: Bar plots are used to display categorical data with rectangular bars. They are suitable for comparing categories or groups of data.

4.Box Plot (Box-and-Whisker Plot): Box plots are helpful in visualizing the distribution of a dataset. They show the median, quartiles, and any outliers in the data.

5.Heatmap: Heatmaps are useful for displaying a matrix-like dataset, where each cell's color represents the value. They are often used for correlation matrices or confusion matrices
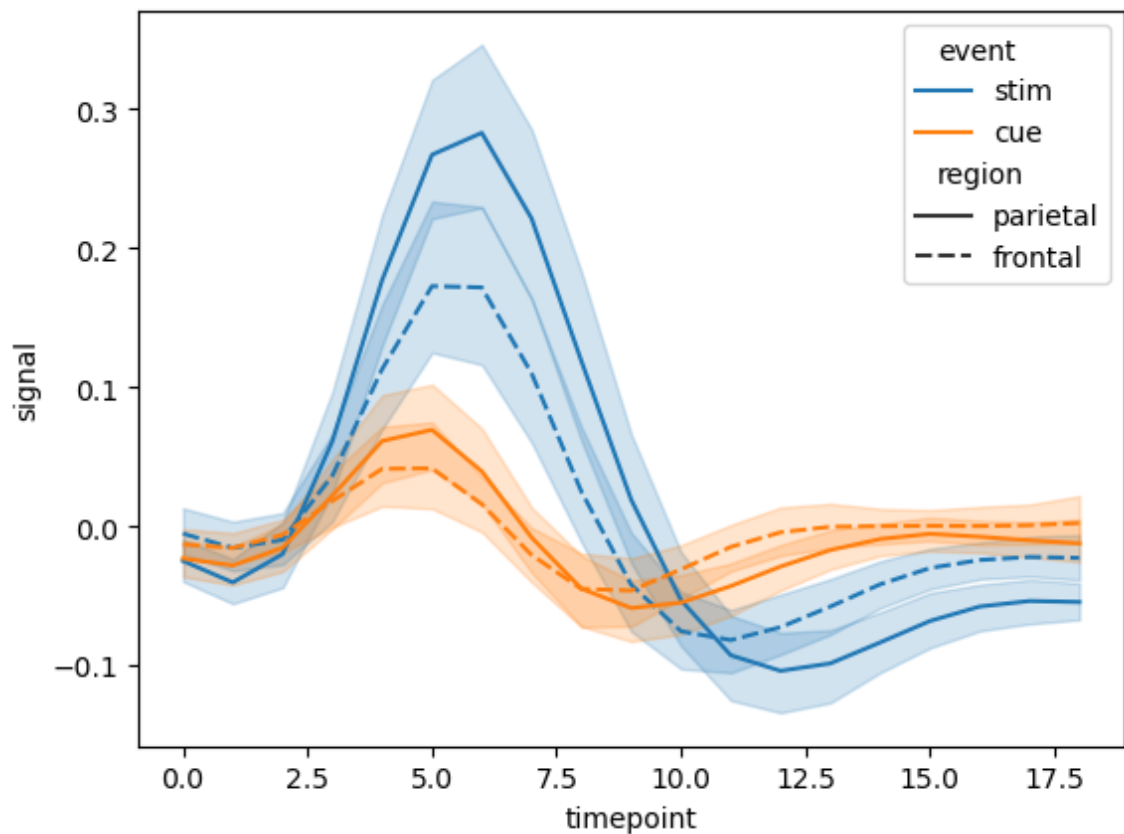
Que 2: Load the "fmri" dataset using the load_dataset function of seaborn. Plot a line plot using x = "timepoint" and y = "signal" for different events and regions. Note: timepoint, signal, event, and region are columns in the fmri dataset.

In [1]:
```python
import seaborn as sns
import matplotlib.pyplot as plt

# Load the fmri dataset
fmri = sns.load_dataset("fmri")

# Create a line plot
sns.lineplot(data=fmri, x="timepoint", y="signal", hue="event", style="region")

# Show the plot
plt.show()
```

Que 3: Load the "titanic" dataset using the load_dataset function of seaborn. Plot two box plots using x = 'pclass', y = 'age' and y = 'fare'. Note: pclass, age, and fare are columns in the titanic dataset.

In [2]:
```python
import seaborn as sns
import matplotlib.pyplot as plt

# Load the titanic dataset
titanic = sns.load_dataset("titanic")

# Create the first box plot
plt.figure(figsize=(10, 5))
sns.boxplot(data=titanic, x="pclass", y="age")
plt.title("Box Plot of Age by Pclass")

# Create the second box plot
plt.figure(figsize=(10, 5))
sns.boxplot(data=titanic, x="pclass", y="fare")
plt.title("Box Plot of Fare by Pclass")

# Show the plots
plt.show()
```

Box Plot of Age by Pclass

Box Plot of Fare by Pclass
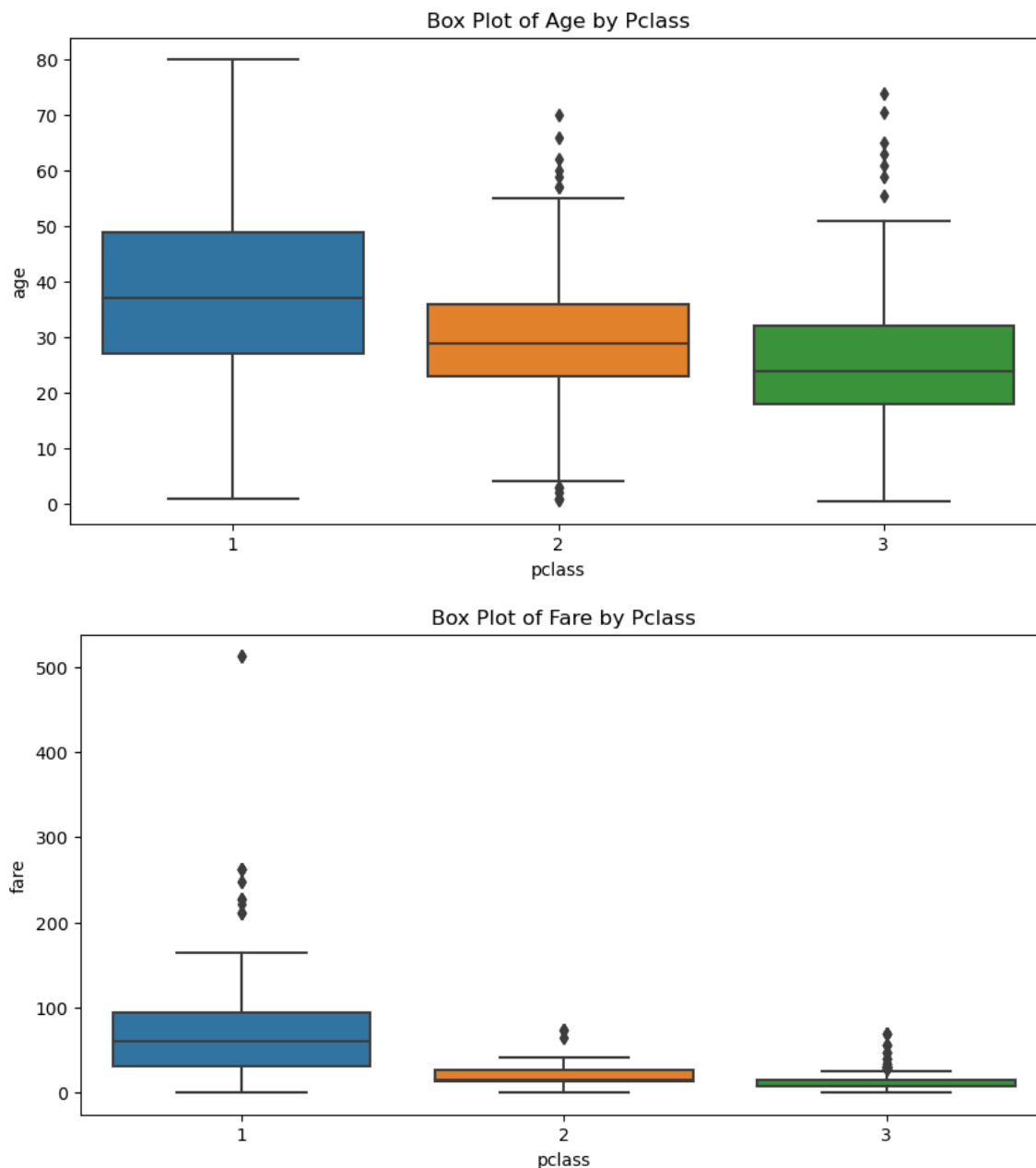
In [ ]: Que 4: Use the "diamonds" dataset from seaborn to plot a histogram for the 'pric
         parameter for the 'cut' column of the diamonds dataset.

In [3]:
```python
import seaborn as sns
import matplotlib.pyplot as plt

# Load the diamonds dataset
diamonds = sns.load_dataset("diamonds")

# Create a histogram with hue for the 'cut' column
sns.histplot(data=diamonds, x="price", hue="cut", kde=True)

# Show the plot
plt.title("Histogram of Diamond Prices by Cut")
plt.show()
```

Histogram of Diamond Prices by Cut
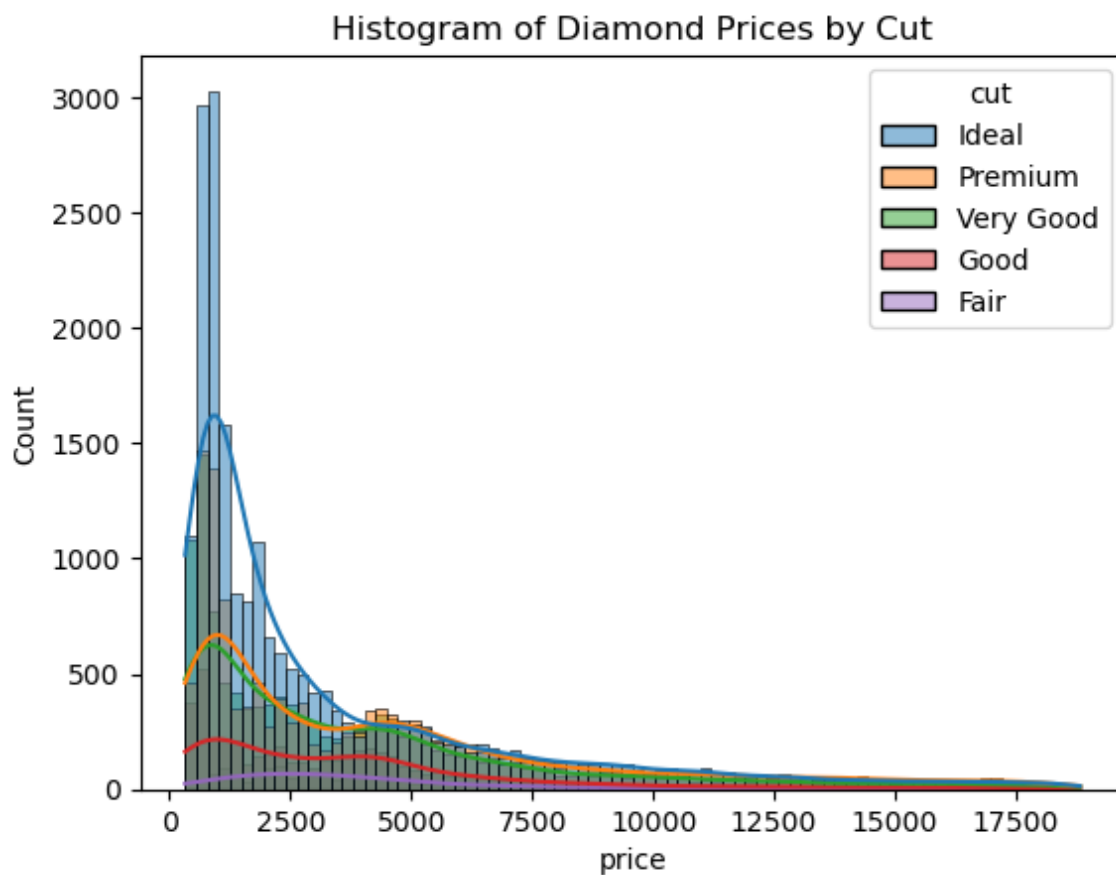

```
In [ ]:   Que 5: Use the "iris" dataset from seaborn to plot a pair plot. Use the hue para
          of the iris dataset.
```

```
In [4]:   import seaborn as sns
          import matplotlib.pyplot as plt

          # Load the diamonds dataset
          diamonds = sns.load_dataset("diamonds")

          # Create a histogram with hue for the 'cut' column
          sns.histplot(data=diamonds, x="price", hue="cut", kde=True)

          # Show the plot
          plt.title("Histogram of Diamond Prices by Cut")
          plt.show()
```
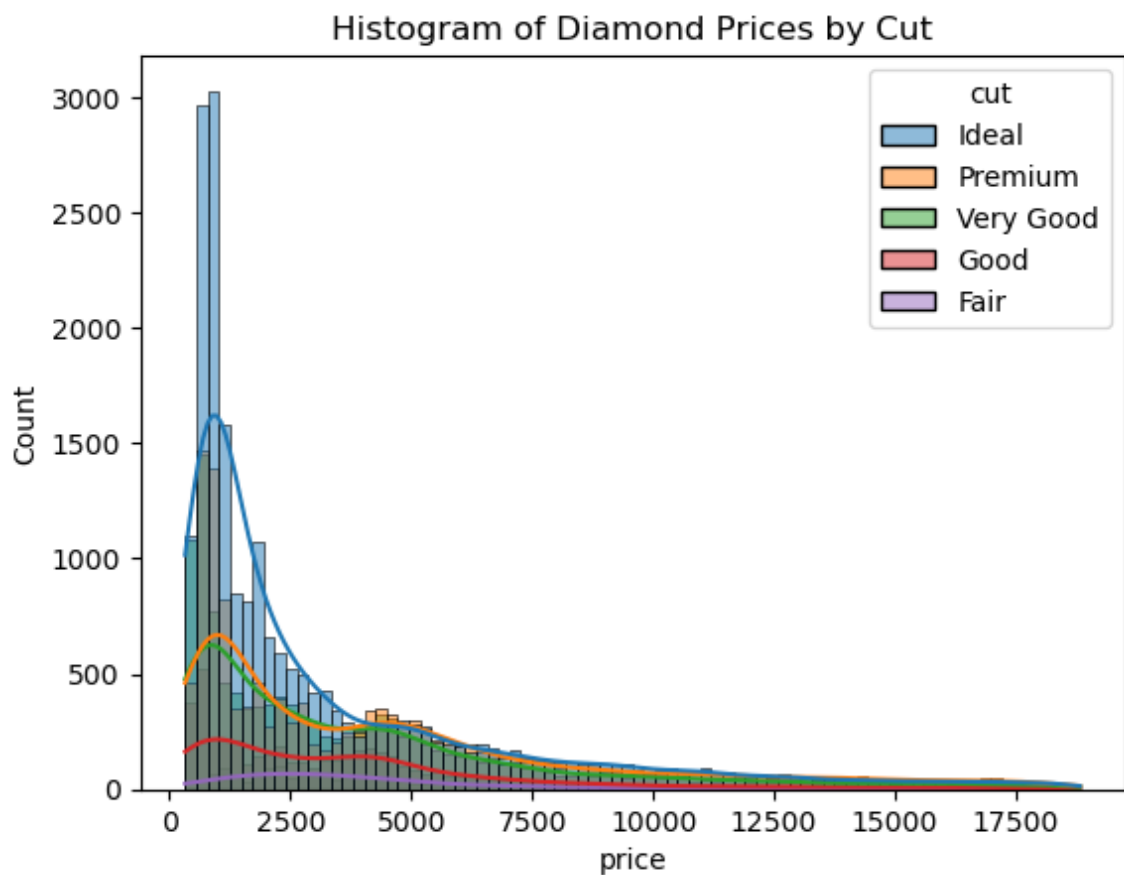
Histogram of Diamond Prices by Cut


```
In [ ]:  Que 6: Use the "flights" dataset from seaborn to plot a heatmap.
```

```
In [5]:  import seaborn as sns
         import matplotlib.pyplot as plt

         # Load the flights dataset
         flights = sns.load_dataset("flights")

         # Pivot the data to create a matrix suitable for a heatmap
         flights_pivot = flights.pivot_table(index='month', columns='year', values='passe

         # Create a heatmap
         plt.figure(figsize=(10, 6))
         sns.heatmap(data=flights_pivot, cmap='coolwarm', annot=True, fmt='d', linewidths

         # Add Labels
         plt.title("Passenger Counts (1000s) by Month and Year")
         plt.xlabel("Year")
         plt.ylabel("Month")

         # Show the heatmap
         plt.show()
```

Passenger Counts (1000s) by Month and Year

Month	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Jan	112	115	145	171	196	204	242	284	315	340	360	417
Feb	118	126	150	180	196	188	233	277	301	318	342	391
Mar	132	141	178	193	236	235	267	317	356	362	406	419
Apr	129	135	163	181	235	227	269	313	348	348	396	461
May	121	125	172	183	229	234	270	318	355	363	420	472
Jun	135	149	178	218	243	264	315	374	422	435	472	535
Jul	148	170	199	230	264	302	364	413	465	491	548	622
Aug	148	170	199	242	272	293	347	405	467	505	559	606
Sep	136	158	184	209	237	259	312	355	404	404	463	508
Oct	119	133	162	191	211	229	274	306	347	359	407	461
Nov	104	114	146	172	180	203	237	271	305	310	362	390
Dec	118	140	166	194	201	229	278	306	336	337	405	432