In [2]:
```python
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
df = pd.read_csv(r'D:\log2.csv ')
plt.figure(figsize=(10, 6))
sns.scatterplot(x='Source Port', y='Destination Port', data=df)
plt.title('Scatterplot of Source Port vs. Destination Port')
plt.xlabel('Source Port')
plt.ylabel('Destination Port')
plt.show()
```
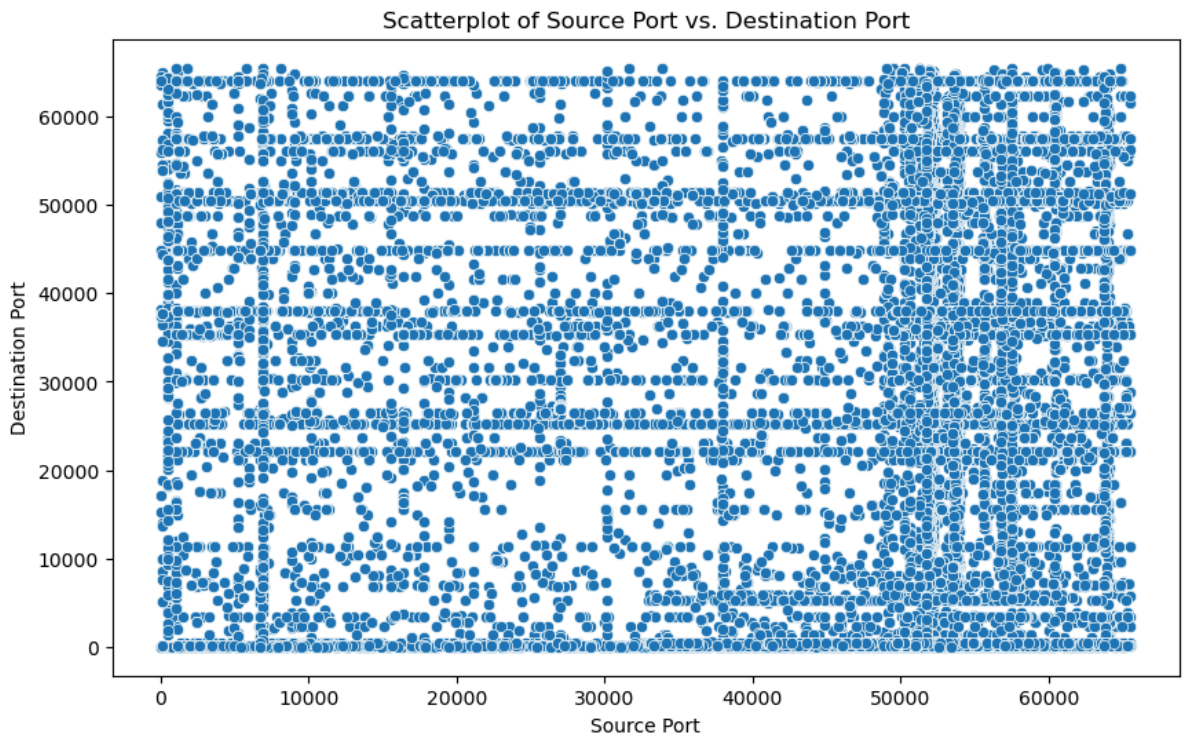

In [ ]:

In [ ]:

In [7]:
```python
df['Cumulative Bytes Sent'] = df['Bytes Sent'].cumsum()

plt.figure(figsize=(10, 6))
plt.plot(df.index, df['Cumulative Bytes Sent'], label='Cumulative Bytes Sent')
plt.fill_between(df.index, df['Cumulative Bytes Sent'], alpha=0.5)
plt.title('Cumulative Sum of Bytes Sent')
plt.xlabel('Index')
plt.ylabel('Cumulative Bytes Sent')
plt.legend()
plt.show()


df['Cumulative Bytes Received'] = df['Bytes Received'].cumsum()
df['Cumulative Packets'] = df['Packets'].cumsum()

plt.figure(figsize=(10, 6))
plt.stackplot(df.index, df['Cumulative Bytes Sent'], df['Cumulative Bytes Received'
plt.title('Stacked Area Plot of Cumulative Sum')
plt.xlabel('Index')
plt.ylabel('Cumulative Sum')
plt.legend(loc='upper left')
plt.show()
```

Cumulative Sum of Bytes Sent

Stacked Area Plot of Cumulative Sum
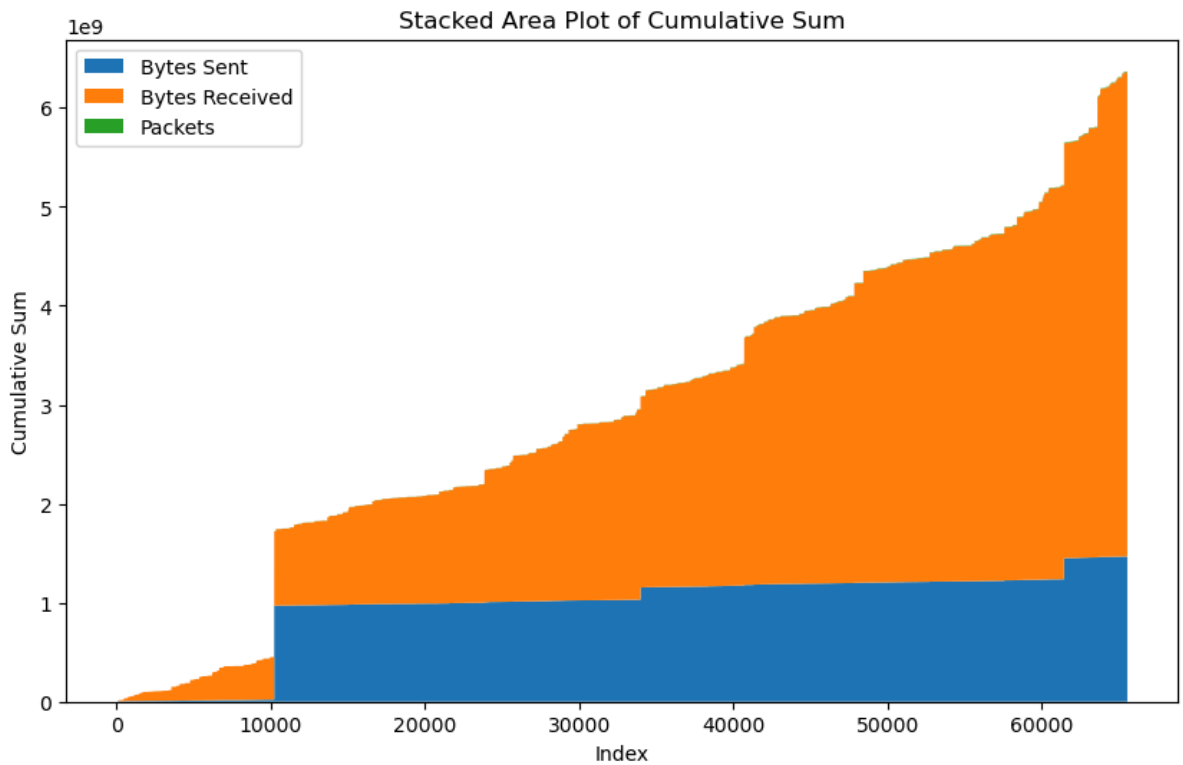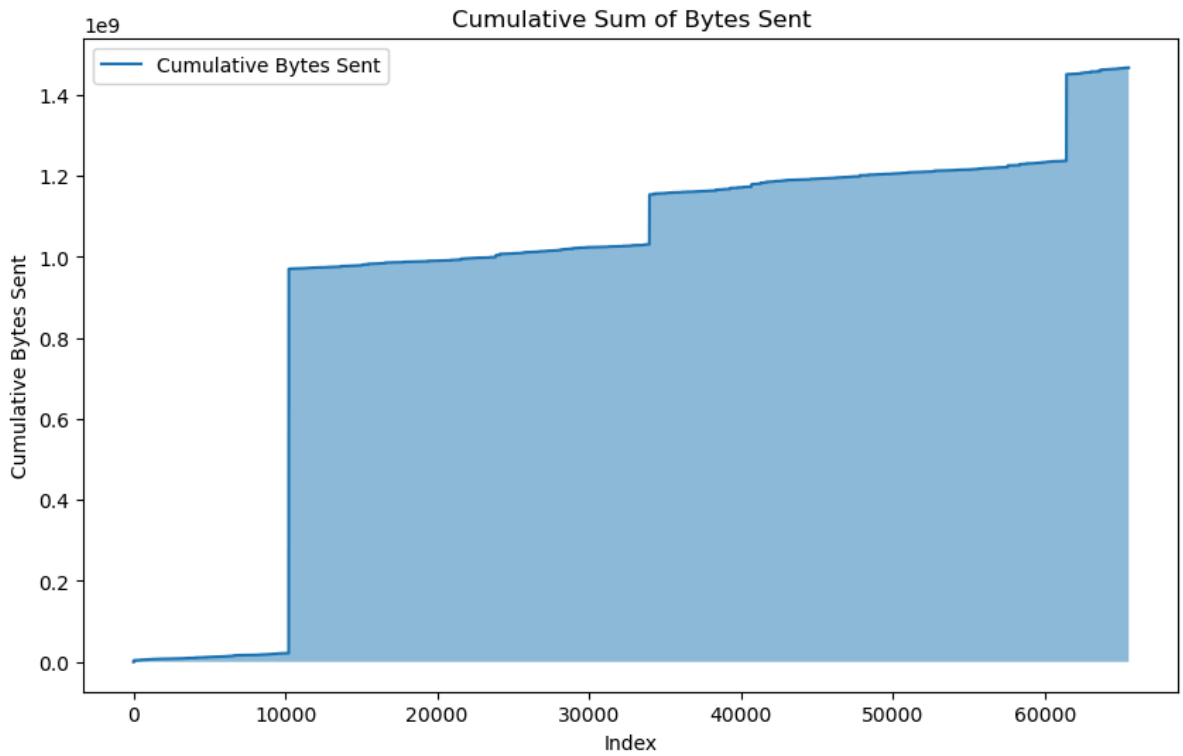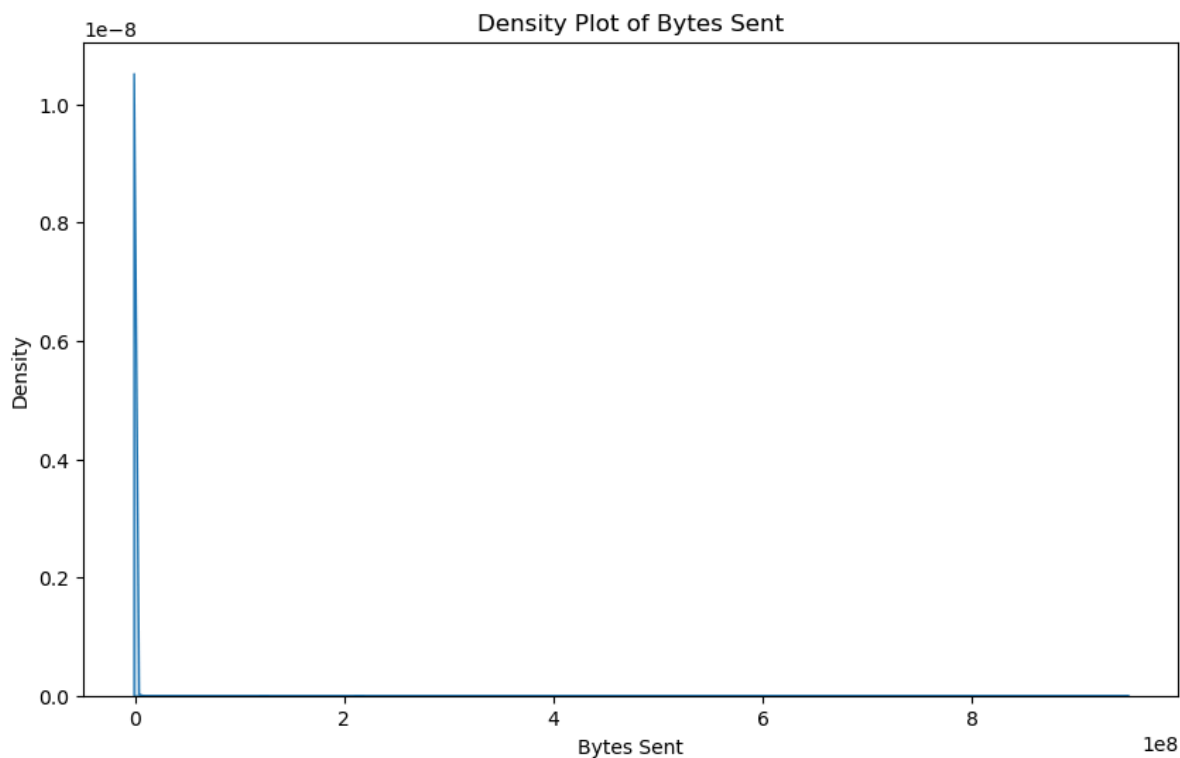
```
In [8]: plt.figure(figsize=(10, 6))
        sns.kdeplot(df['Bytes Sent'], shade=True)
        plt.title('Density Plot of Bytes Sent')
        plt.xlabel('Bytes Sent')
        plt.ylabel('Density')
        plt.show()
```
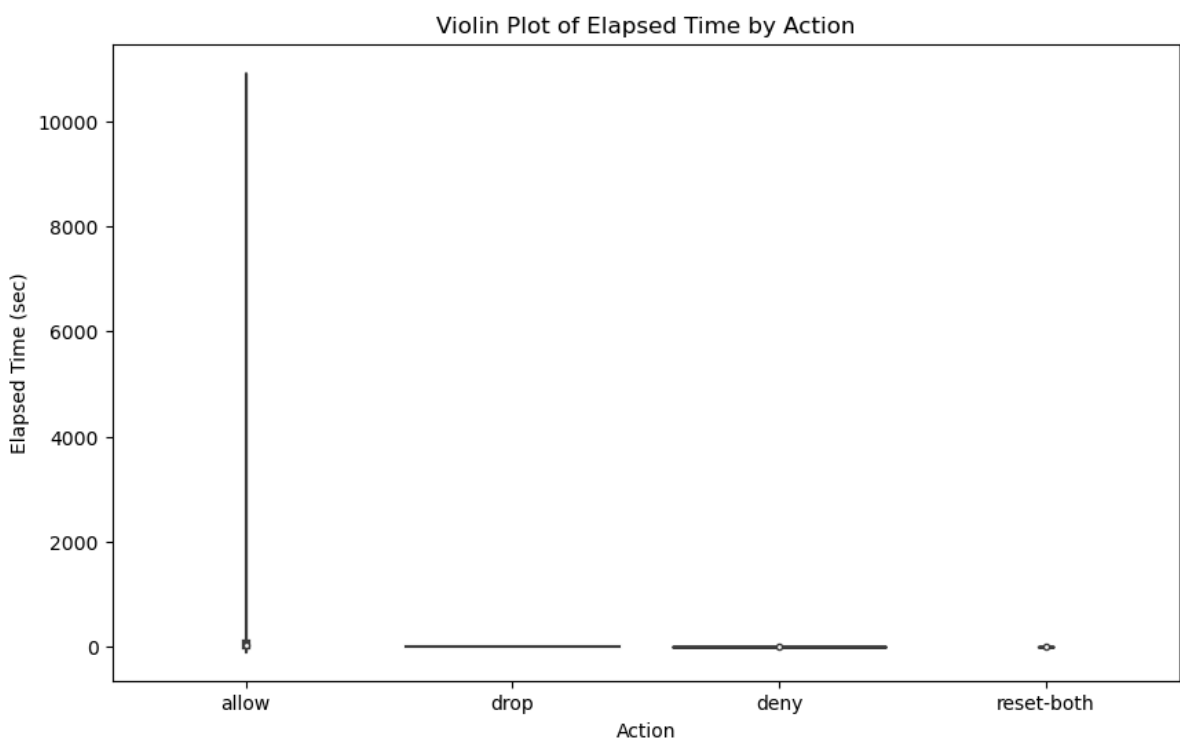
```
C:\Users\23bad051\AppData\Local\Temp\ipykernel_14208\3798092505.py:2: FutureWarnin
g:

`shade` is now deprecated in favor of `fill`; setting `fill=True`.
This will become an error in seaborn v0.14.0; please update your code.

  sns.kdeplot(df['Bytes Sent'], shade=True)
```
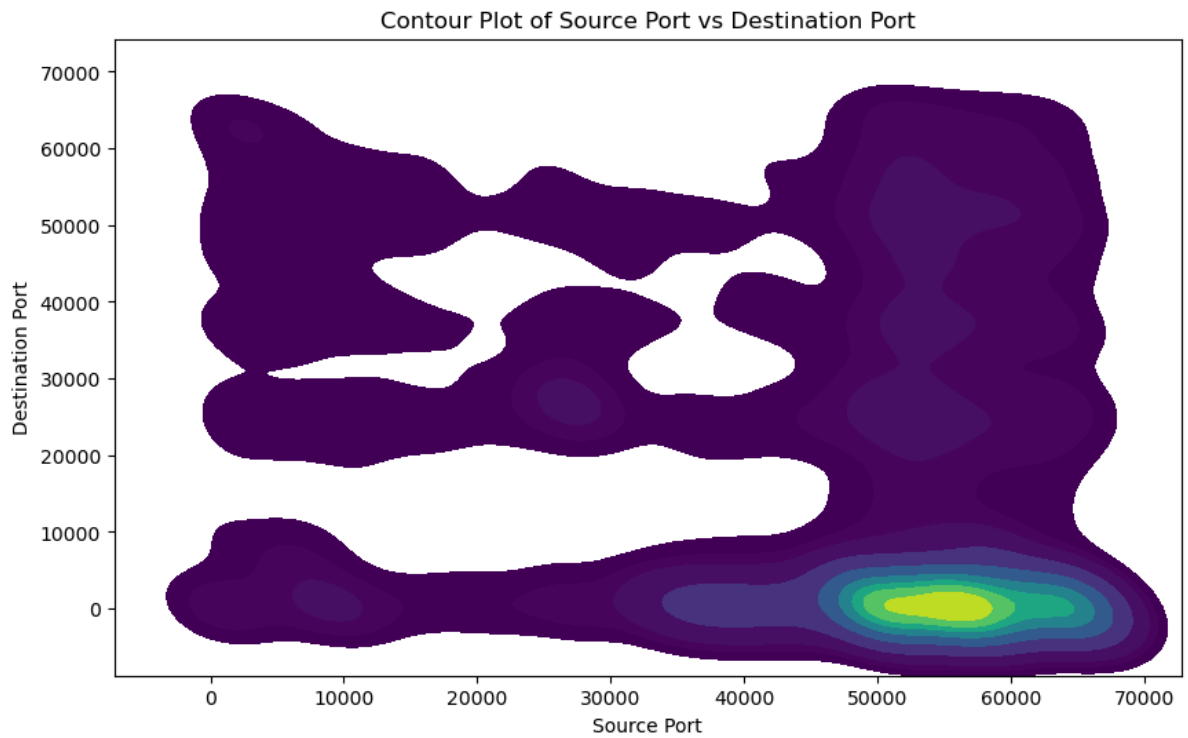
Density Plot of Bytes Sent



```
In [10]:  plt.figure(figsize=(10, 6))
          sns.violinplot(x='Action', y='Elapsed Time (sec)', data=df)
          plt.title('Violin Plot of Elapsed Time by Action')
          plt.xlabel('Action')
          plt.ylabel('Elapsed Time (sec)')
          plt.show()
```

Violin Plot of Elapsed Time by Action


```
In [11]:  plt.figure(figsize=(10, 6))
          sns.kdeplot(x=df['Source Port'], y=df['Destination Port'], cmap='viridis', fill=Tru
          plt.title('Contour Plot of Source Port vs Destination Port')
          plt.xlabel('Source Port')
          plt.ylabel('Destination Port')
          plt.show()
```

## Contour Plot of Source Port vs Destination Port


```
In [12]:  plt.figure(figsize=(10, 6))
          sns.scatterplot(x='Bytes Sent', y='Bytes Received', data=df)
          plt.title('Scatterplot of Bytes Sent vs. Bytes Received')
          plt.xlabel('Bytes Sent')
          plt.ylabel('Bytes Received')
          plt.show()
```
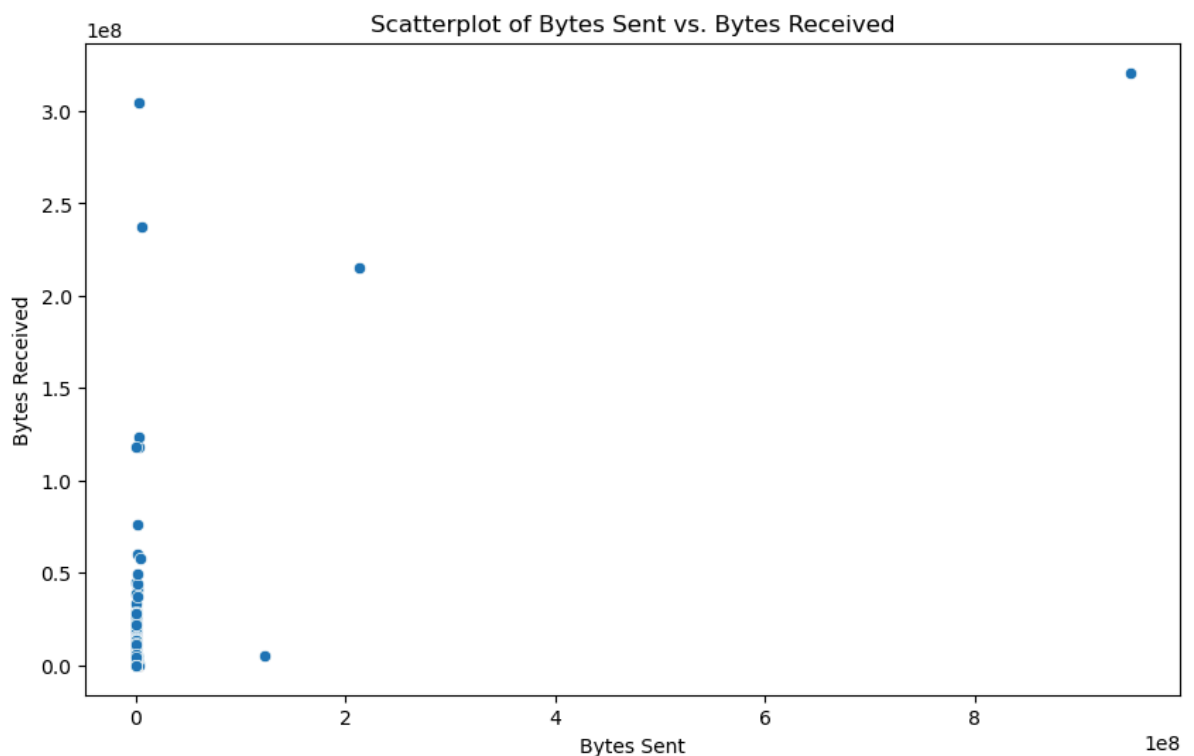


```
In [13]:  df['Cumulative Packets'] = df['Packets'].cumsum()

          plt.figure(figsize=(10, 6))
          plt.plot(df.index, df['Cumulative Packets'], label='Cumulative Packets')
          plt.fill_between(df.index, df['Cumulative Packets'], alpha=0.5)
          plt.title('Cumulative Sum of Packets')
          plt.xlabel('Index')
          plt.ylabel('Cumulative Packets')
```

```
plt.legend()
plt.show()
```


Cumulative Sum of Packets
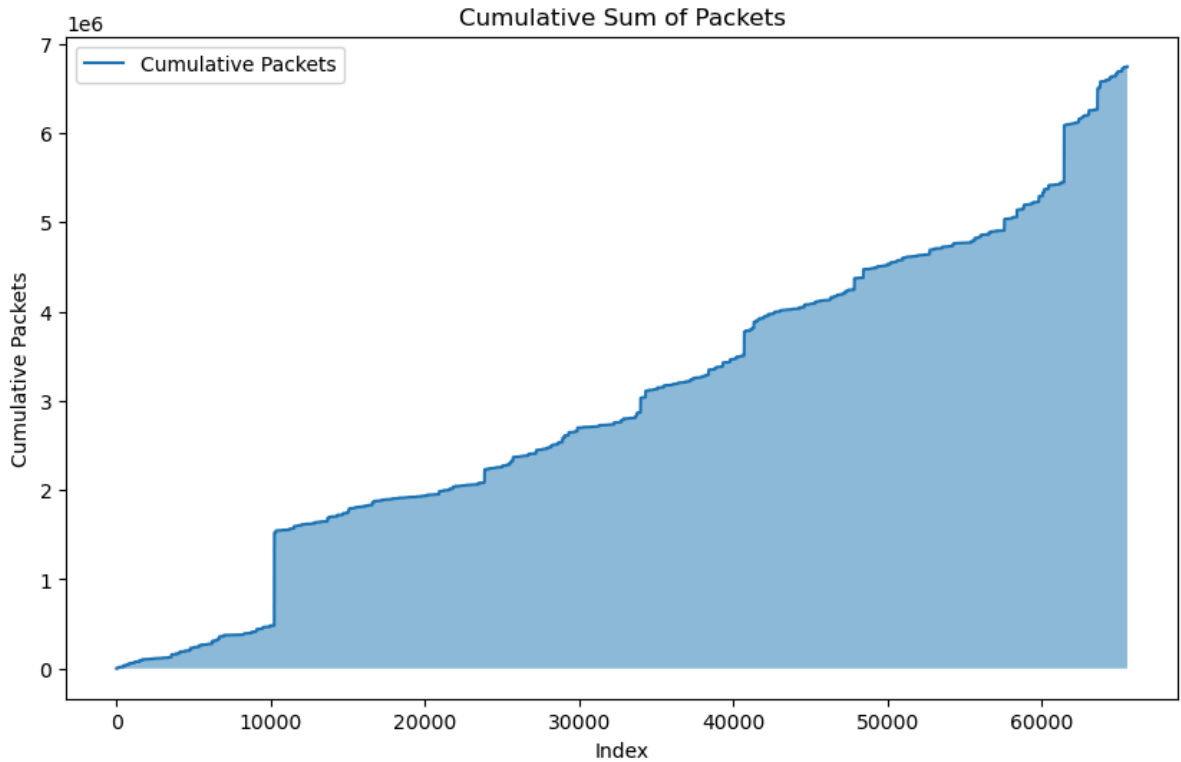
```
In [14]: df['Cumulative pkts_sent'] = df['pkts_sent'].cumsum()
         df['Cumulative pkts_received'] = df['pkts_received'].cumsum()

         plt.figure(figsize=(10, 6))
         plt.stackplot(df.index, df['Cumulative Packets'], df['Cumulative pkts_sent'], df['C
         plt.title('Stacked Area Plot of Cumulative Sum')
         plt.xlabel('Index')
         plt.ylabel('Cumulative Sum')
         plt.legend(loc='upper left')
         plt.show()
```


Stacked Area Plot of Cumulative Sum
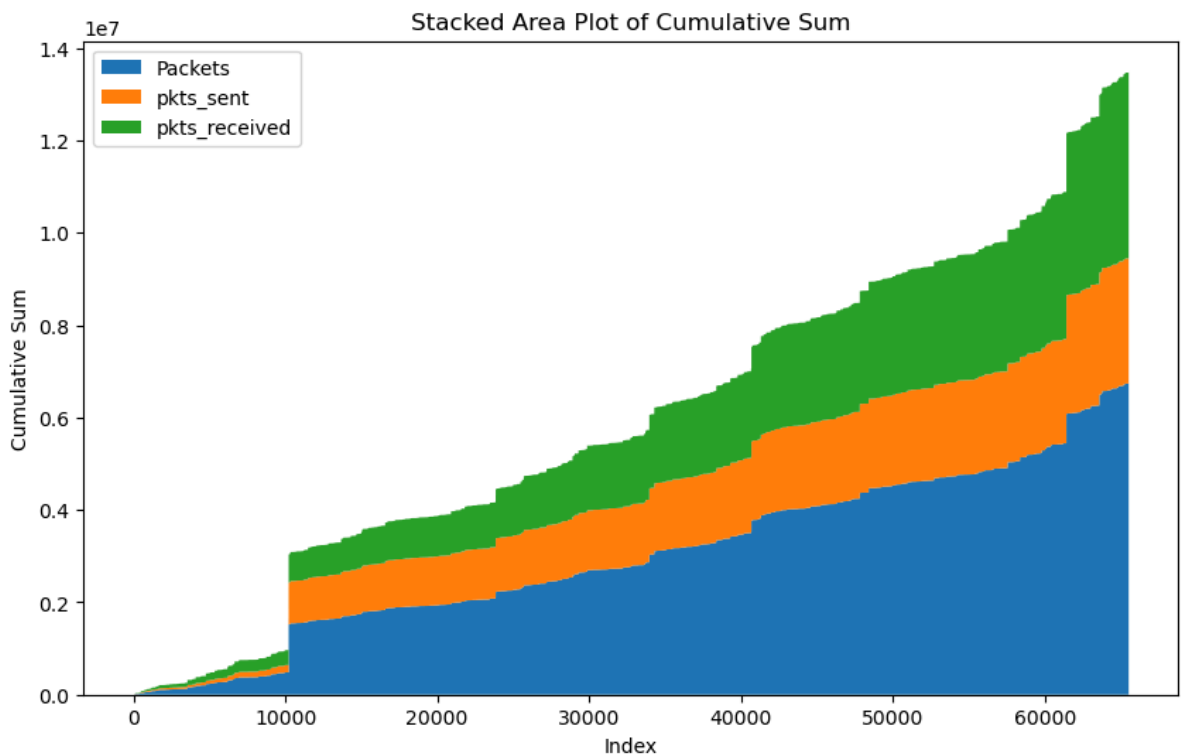
In [15]:
```python
plt.figure(figsize=(10, 6))
sns.kdeplot(df['pkts_received'], shade=True)
plt.title('Density Plot of Packets Received')
plt.xlabel('Packets Received')
plt.ylabel('Density')
plt.show()
```

```
C:\Users\23bad051\AppData\Local\Temp\ipykernel_14208\4231111380.py:2: FutureWarnin
g:

`shade` is now deprecated in favor of `fill`; setting `fill=True`.
This will become an error in seaborn v0.14.0; please update your code.

  sns.kdeplot(df['pkts_received'], shade=True)
```
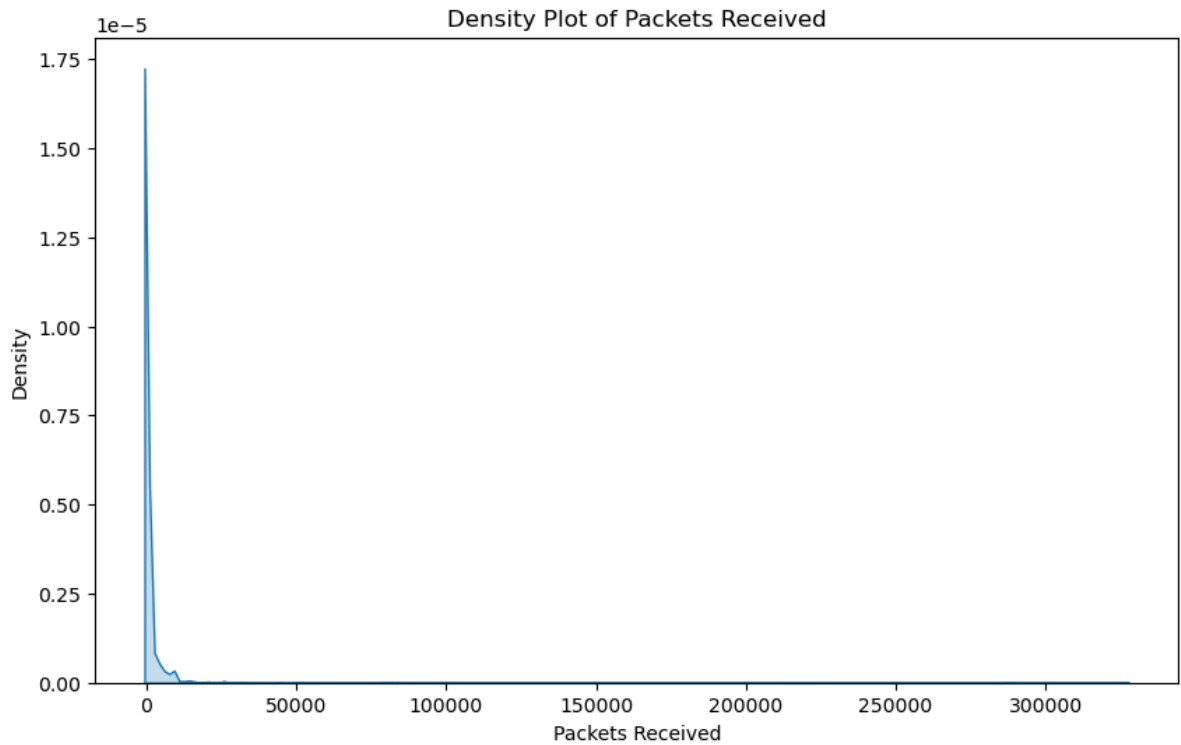

In [16]:
```python
plt.figure(figsize=(10, 6))
sns.violinplot(x='Action', y='Bytes', data=df)
plt.title('Violin Plot of Bytes by Action')
plt.xlabel('Action')
plt.ylabel('Bytes')
plt.show()
```

Violin Plot of Bytes by Action
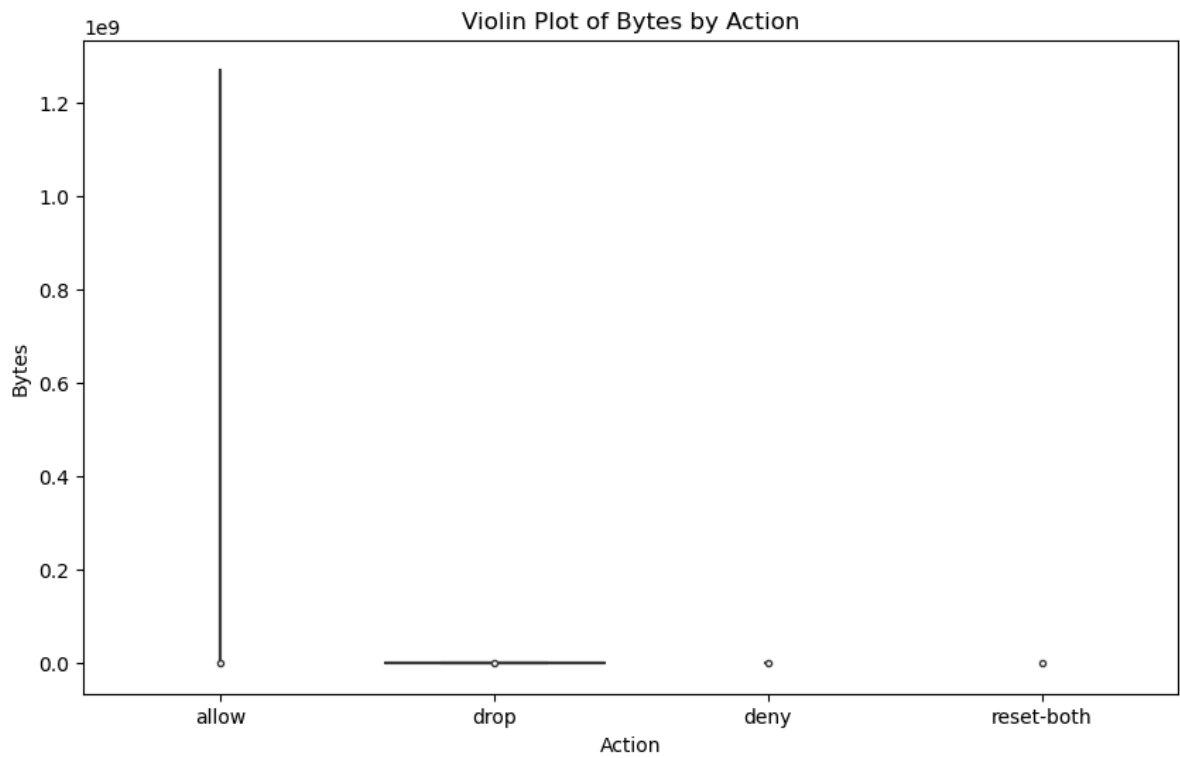


```
In [17]:  plt.figure(figsize=(10, 6))
          sns.kdeplot(x=df['NAT Source Port'], y=df['NAT Destination Port'], cmap='viridis',
          plt.title('Contour Plot of NAT Source Port vs NAT Destination Port')
          plt.xlabel('NAT Source Port')
          plt.ylabel('NAT Destination Port')
          plt.show()
```
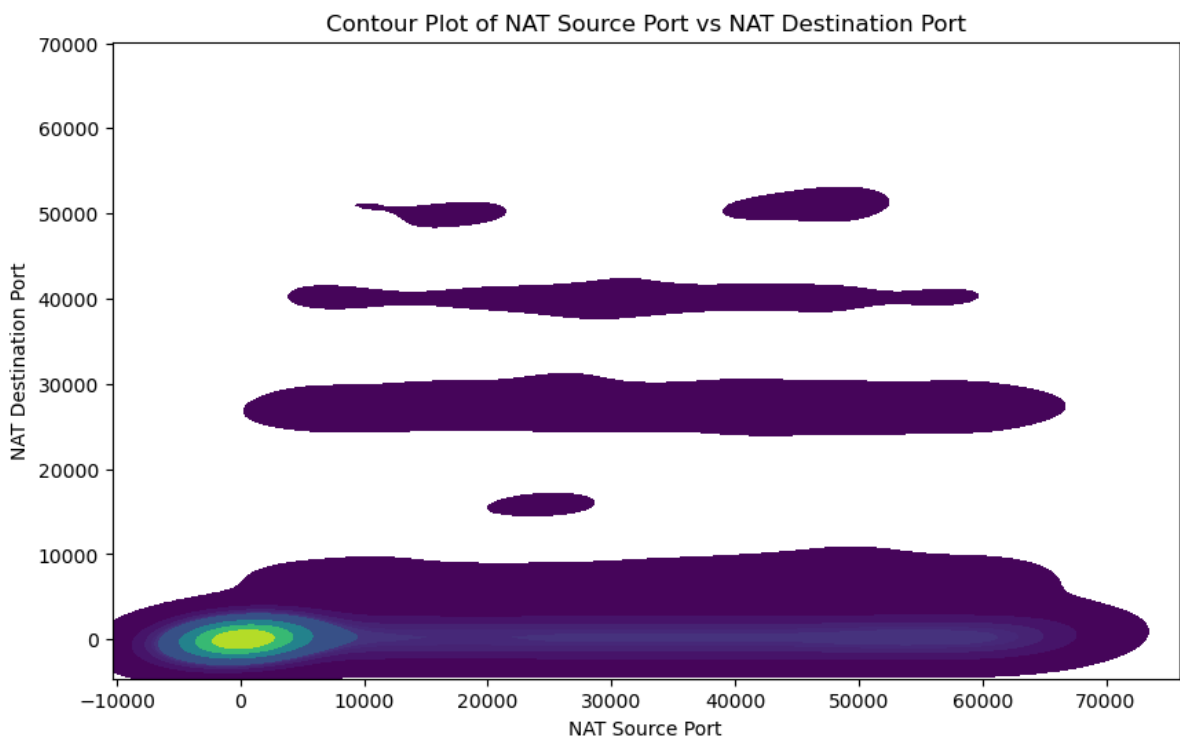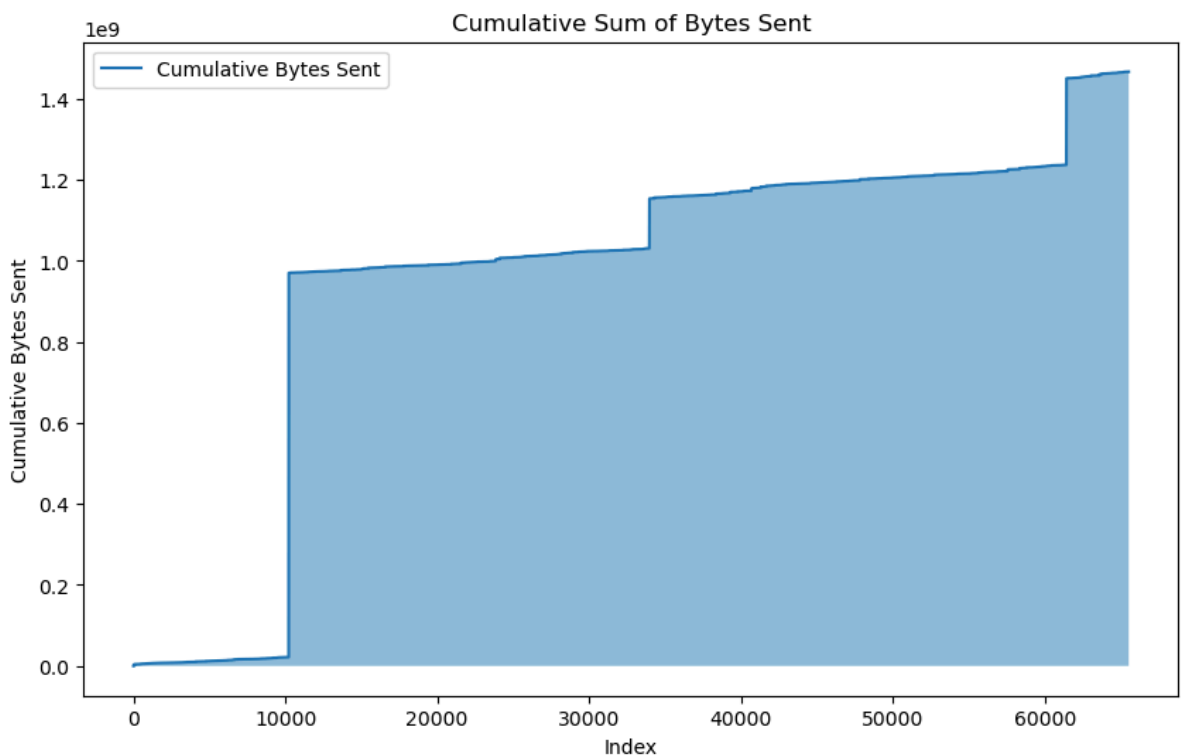


```
In [ ]:
```

```
In [18]:  plt.figure(figsize=(10, 6))
          sns.scatterplot(x='Source Port', y='Destination Port', data=df)
          plt.title('Scatterplot of Source Port vs. Destination Port')
          plt.xlabel('Source Port')
          plt.ylabel('Destination Port')
          plt.show()
```

## Scatterplot of Source Port vs. Destination Port
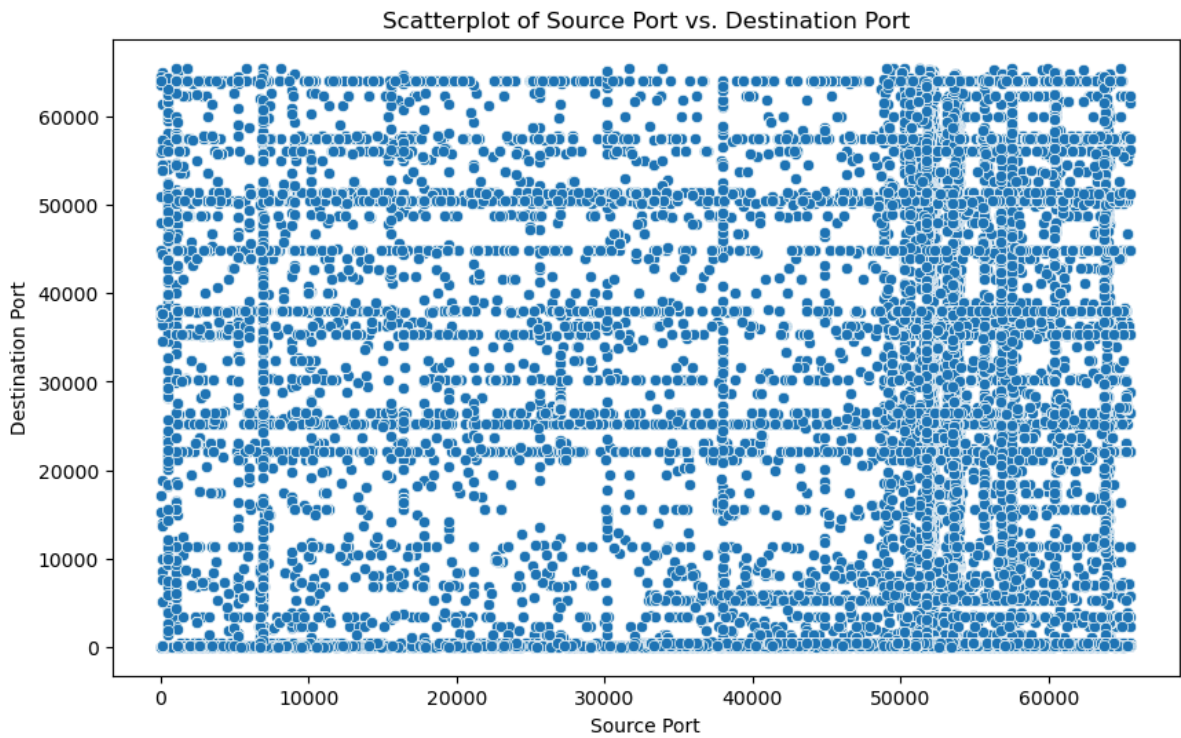

```
In [19]: plt.figure(figsize=(10, 6))
         plt.plot(df.index, df['Cumulative Bytes Sent'], label='Cumulative Bytes Sent')
         plt.fill_between(df.index, df['Cumulative Bytes Sent'], alpha=0.5)
         plt.title('Cumulative Sum of Bytes Sent')
         plt.xlabel('Index')
         plt.ylabel('Cumulative Bytes Sent')
         plt.legend()
         plt.show()
```
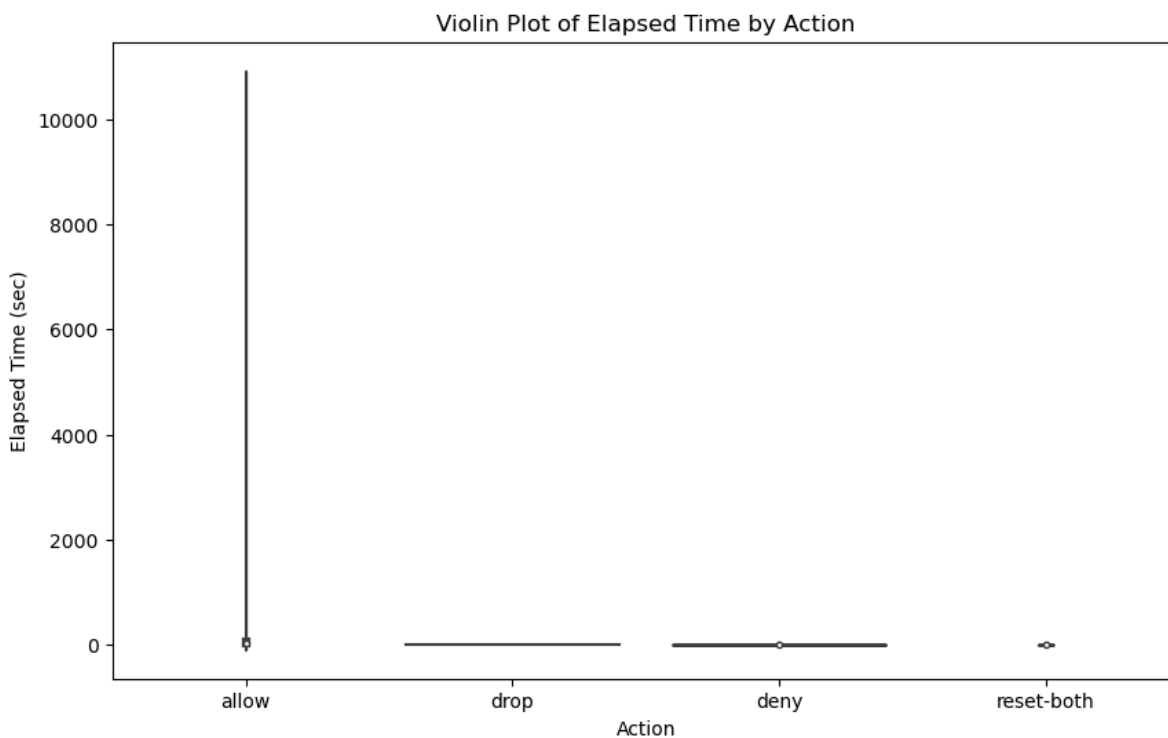


```
In [20]: plt.figure(figsize=(10, 6))
         plt.stackplot(df.index, df['Cumulative Bytes Sent'], df['Cumulative Bytes Received'
         plt.title('Stacked Area Plot of Cumulative Sum')
         plt.xlabel('Index')
         plt.ylabel('Cumulative Sum')
```

```python
plt.legend(loc='upper left')
plt.show()
```
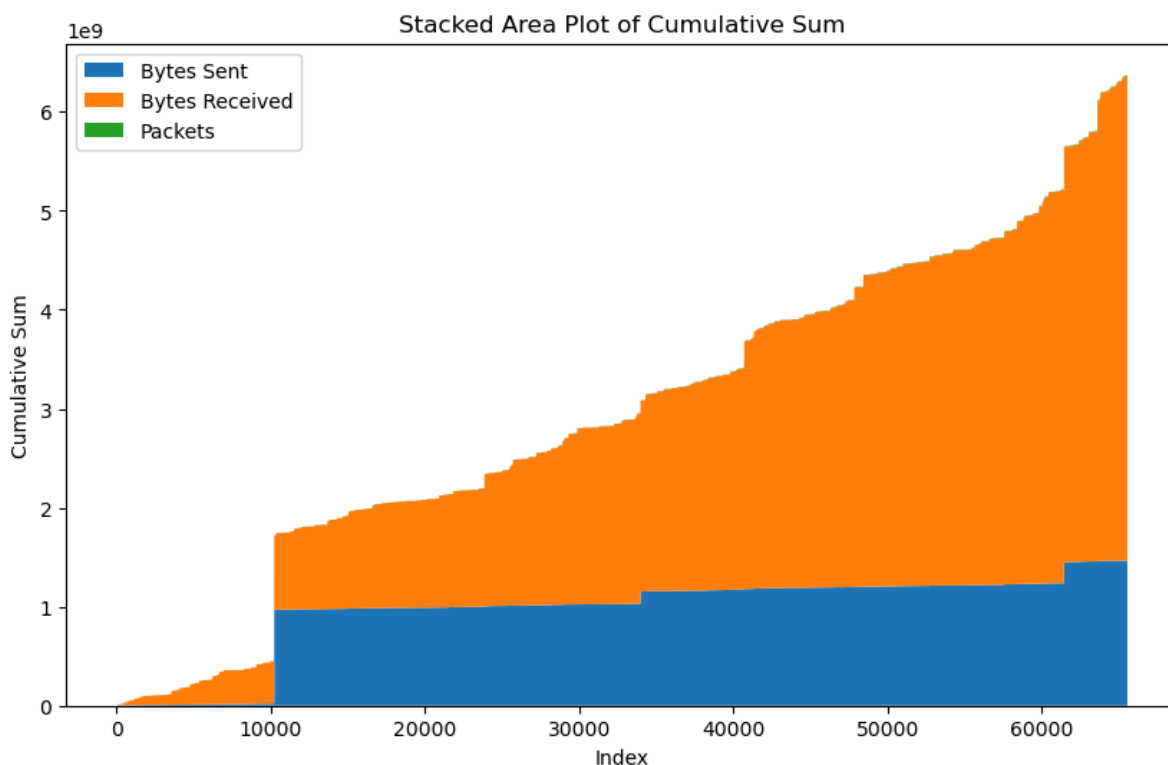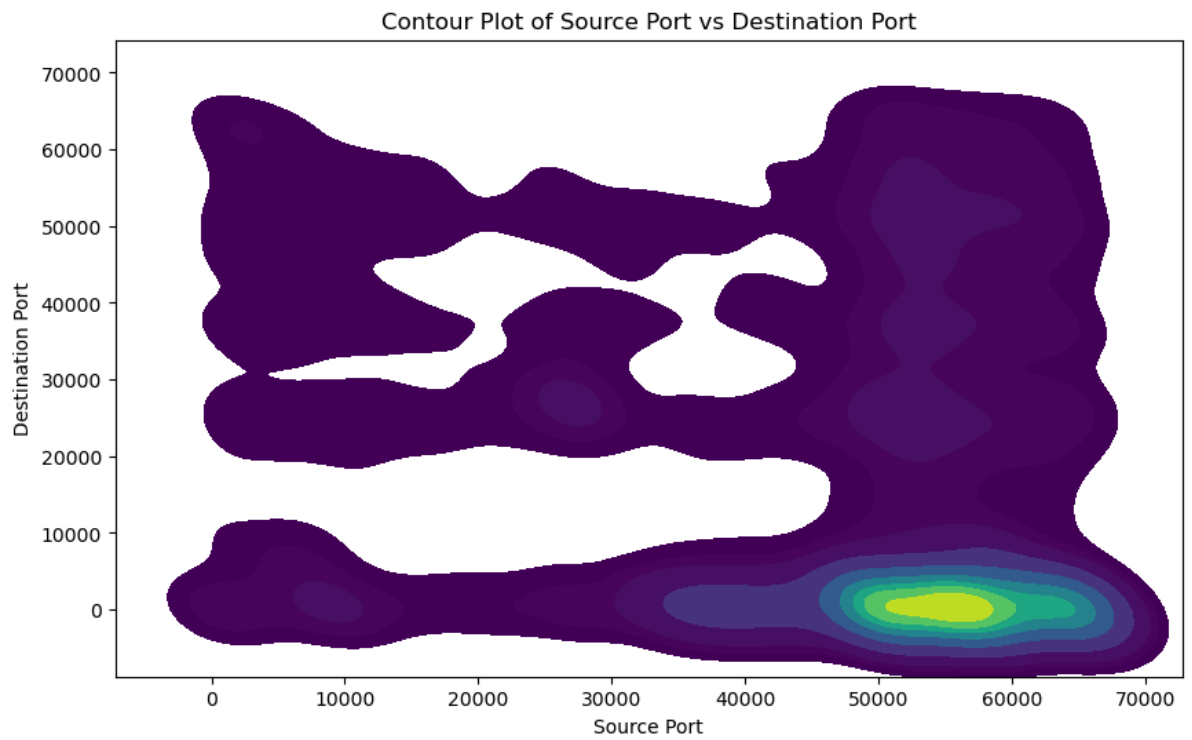


```python
In [3]:  plt.figure(figsize=(10, 6))
         sns.violinplot(x='Action', y='Elapsed Time (sec)', data=df)
         plt.title('Violin Plot of Elapsed Time by Action')
         plt.xlabel('Action')
         plt.ylabel('Elapsed Time (sec)')
         plt.show()
```



```python
In [4]:  plt.figure(figsize=(10, 6))
         sns.kdeplot(x=df['Source Port'], y=df['Destination Port'], cmap='viridis', fill=Tru
         plt.title('Contour Plot of Source Port vs Destination Port')
         plt.xlabel('Source Port')
```

```
plt.ylabel('Destination Port')
plt.show()
```

Contour Plot of Source Port vs Destination Port

In [ ]: