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Q. Data Visualization I

1. Use the inbuilt dataset 'titanic'. The dataset contains 891 rows and contains information about the passengers who boarded the unfortunate Titanic ship. Use the Seaborn library to see if we can find any patterns in the data.

2. Write a code to check how the price of the ticket (column name: 'fare') for each passenger is distributed by plotting a histogram.

CODE:-

In [1]:

```
import pandas as pd
import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt
```

In [2]:

```
titanic = sns.load_dataset("titanic")
```

In [3]:

```
titanic
```

Out[3]:

	survived	pclass	sex	age	sibsp	parch	fare	embarked	class	who	adult_male	deck	embark_town	alive	alone
0	0	3	male	22.0	1	0	7.2500	S	Third	man	True	NaN	Southampton	no	False
1	1	1	female	38.0	1	0	71.2833	C	First	woman	False	C	Cherbourg	yes	False
2	1	3	female	26.0	0	0	7.9250	S	Third	woman	False	NaN	Southampton	yes	True
3	1	1	female	35.0	1	0	53.1000	S	First	woman	False	C	Southampton	yes	False
4	0	3	male	35.0	0	0	8.0500	S	Third	man	True	NaN	Southampton	no	True
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
886	0	2	male	27.0	0	0	13.0000	S	Second	man	True	NaN	Southampton	no	True
887	1	1	female	19.0	0	0	30.0000	S	First	woman	False	B	Southampton	yes	True
888	0	3	female	NaN	1	2	23.4500	S	Third	woman	False	NaN	Southampton	no	False
889	1	1	male	26.0	0	0	30.0000	C	First	man	True	C	Cherbourg	yes	True
890	0	3	male	32.0	0	0	7.7500	Q	Third	man	True	NaN	Queenstown	no	True

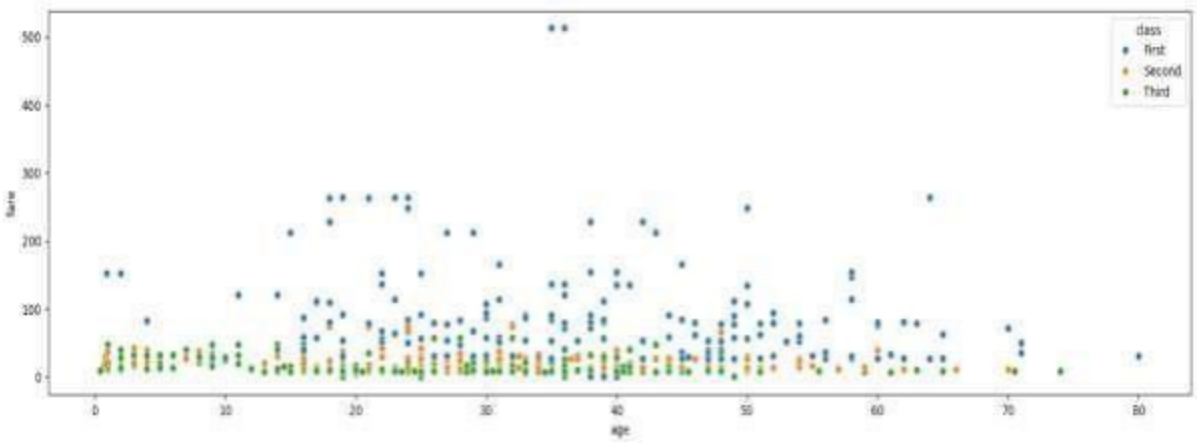
891 rows × 15 columns

In [4]:

```
plt.figure(figsize=(20,5))
sns.scatterplot(data=titanic, x="age", y="fare", hue="class")
```

Out[4]:

```
<Axes: xlabel='age', ylabel='fare'>
```



In [5]:

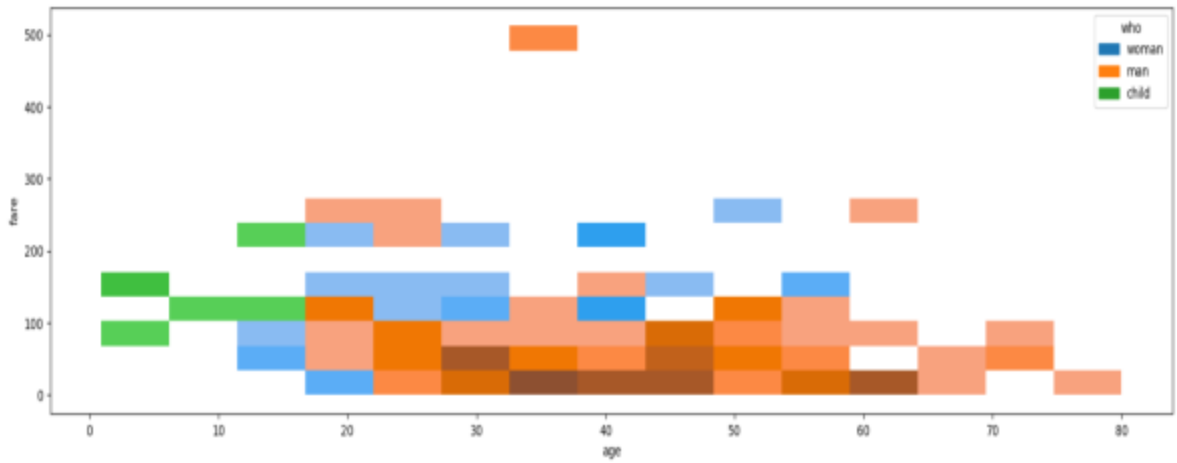
```
firstClass = titanic["class"] == 'First'
secondClass = titanic["class"] == 'Second'
thirdClass = titanic["class"] == 'Third'
```

In [6]:

```
plt.figure(figsize=(20,5))
sns.histplot(data=titanic[firstClass] , x = 'age', y = 'fare', hue = 'who', bins =
15)
```

Out[6]:

<Axes: xlabel='age', ylabel='fare'>

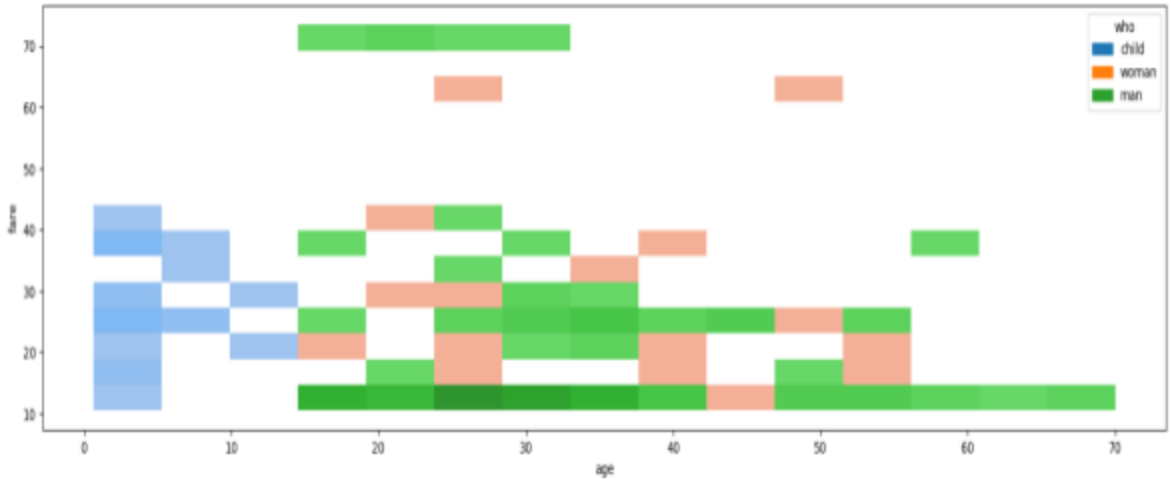


In [7]:

```
plt.figure(figsize=(20,5))
sns.histplot(data=titanic[secondClass] , x = 'age', y = 'fare', hue = 'who', bins =
15)
```

Out[7]:

<Axes: xlabel='age', ylabel='fare'>



In [8]:

```
plt.figure(figsize=(20,5))
sns.histplot(data=titanic[thirdClass] , x = 'age', y = 'fare', hue = 'who', bins = 25)
```

Out[8]:

<Axes: xlabel='age', ylabel='fare'>