In [2]:
```
import pandas as pd
```

In [3]:
```
titanic_df = pd.read_csv('C:/Users/sathu/OneDrive/Desktop/train.csv')
```

In [4]:
```
titanic_df
```

Out[4]:

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	C
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	A/5 21171	7.2500	
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1	0	PC 17599	71.2833	
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/O2. 3101282	7.9250	
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	113803	53.1000	C
4	5	0	3	Allen, Mr. William Henry	male	35.0	0	0	373450	8.0500	
...	...	...	...	...	...	...	...	...	...	...	...
886	887	0	2	Montvila, Rev. Juozas	male	27.0	0	0	211536	13.0000	
887	888	1	1	Graham, Miss. Margaret Edith	female	19.0	0	0	112053	30.0000	
888	889	0	3	Johnston, Miss. Catherine Helen "Carrie"	female	NaN	1	2	W./C. 6607	23.4500	
889	890	1	1	Behr, Mr. Karl Howell	male	26.0	0	0	111369	30.0000	C
890	891	0	3	Dooley, Mr. Patrick	male	32.0	0	0	370376	7.7500	

891 rows × 12 columns

In [5]:
```
titanic_df.info()
```

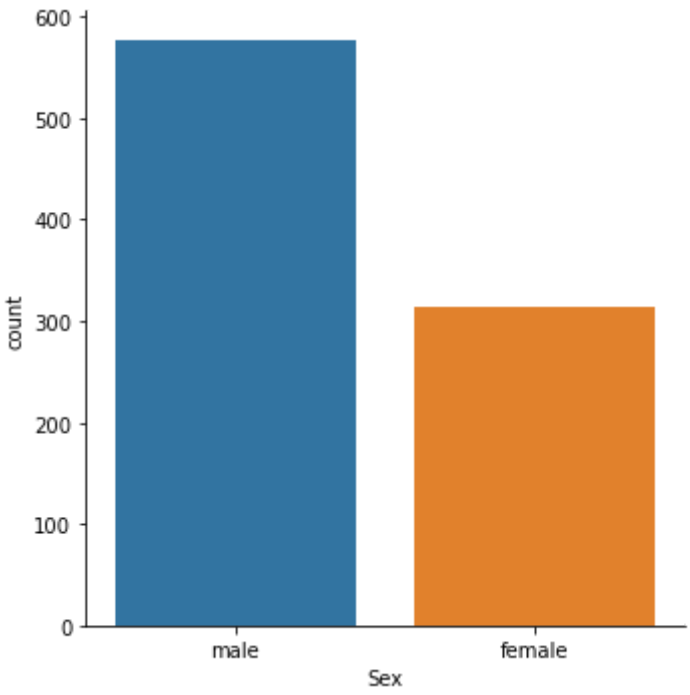
```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 891 entries, 0 to 890
Data columns (total 12 columns):
 #   Column       Non-Null Count  Dtype
---  ------       --------------  -----
 0   PassengerId  891 non-null    int64
 1   Survived     891 non-null    int64
 2   Pclass       891 non-null    int64
 3   Name         891 non-null    object
 4   Sex          891 non-null    object
 5   Age          714 non-null    float64
 6   SibSp        891 non-null    int64
 7   Parch        891 non-null    int64
 8   Ticket       891 non-null    object
 9   Fare         891 non-null    float64
 10  Cabin        204 non-null    object
 11  Embarked     889 non-null    object
dtypes: float64(2), int64(5), object(5)
memory usage: 83.7+ KB
```

In [6]:
```
import numpy as np

from pandas import Series, DataFrame

import matplotlib.pyplot as plt
%matplotlib inline

import seaborn as sns
```

In [7]:
```
sns.catplot('Sex',data=titanic_df,kind='count')
```

```
C:\Users\sathu\anaconda3\lib\site-packages\seaborn\_decorators.py:36: FutureWarnin
g: Pass the following variable as a keyword arg: x. From version 0.12, the only va
lid positional argument will be `data`, and passing other arguments without an exp
licit keyword will result in an error or misinterpretation.
  warnings.warn(
```

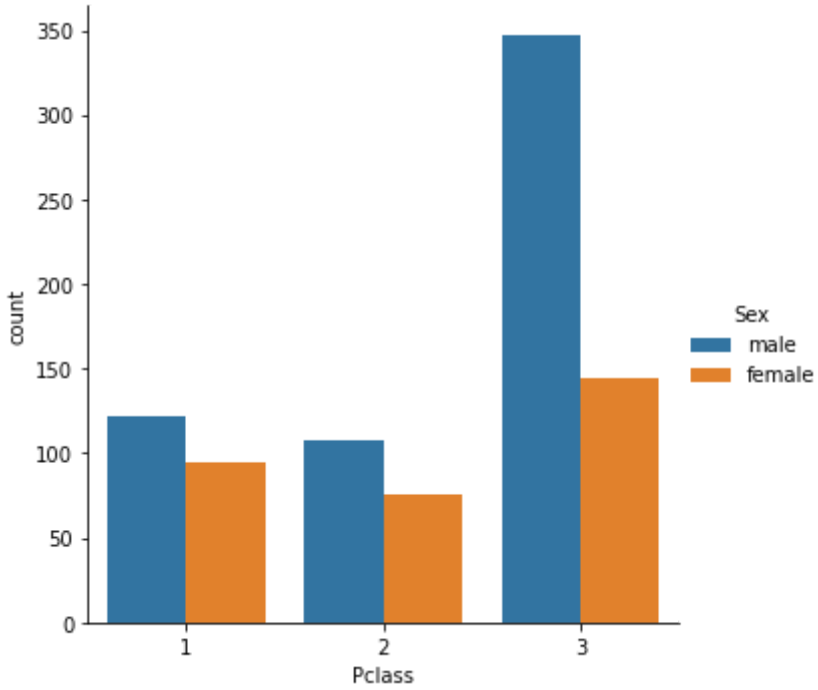
Out[7]:
```
<seaborn.axisgrid.FacetGrid at 0x2191a0d04c0>
```



In [8]:
```
sns.catplot('Pclass',data=titanic_df,hue='Sex',kind='count')
```

```
C:\Users\sathu\anaconda3\lib\site-packages\seaborn\_decorators.py:36: FutureWarnin
g: Pass the following variable as a keyword arg: x. From version 0.12, the only va
lid positional argument will be `data`, and passing other arguments without an exp
licit keyword will result in an error or misinterpretation.
  warnings.warn(
```

Out[8]:
```
<seaborn.axisgrid.FacetGrid at 0x2191fdefc70>
```



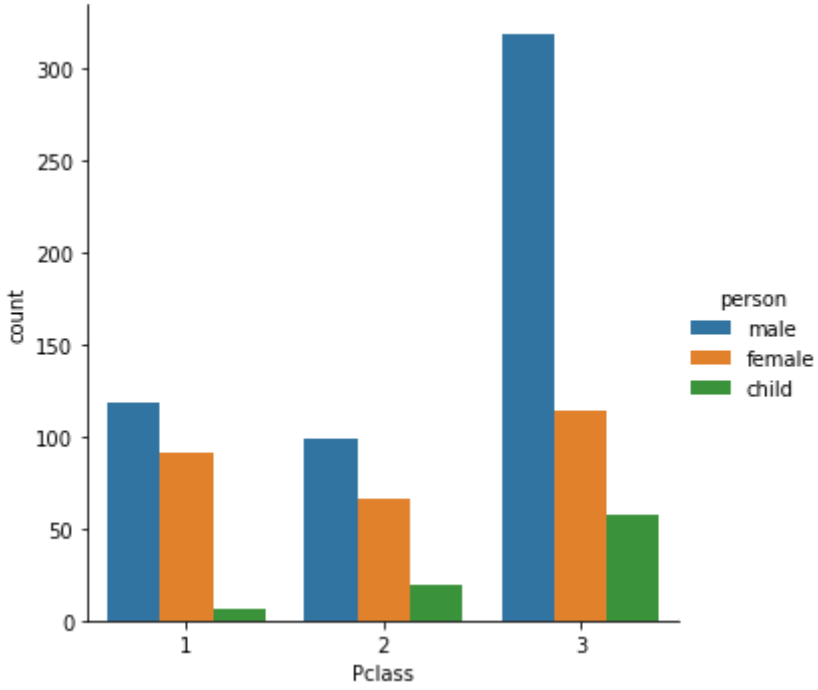
In [9]:
```
def male_female_child(passenger):
    Age,Sex = passenger

    if Age<16:
        return 'child'
    else:
        return Sex
```

In [10]:
```
titanic_df['person'] = titanic_df[['Age','Sex']].apply(male_female_child,axis=1)
```

In [11]:
```
sns.catplot('Pclass',data=titanic_df,hue='person',kind='count')
```

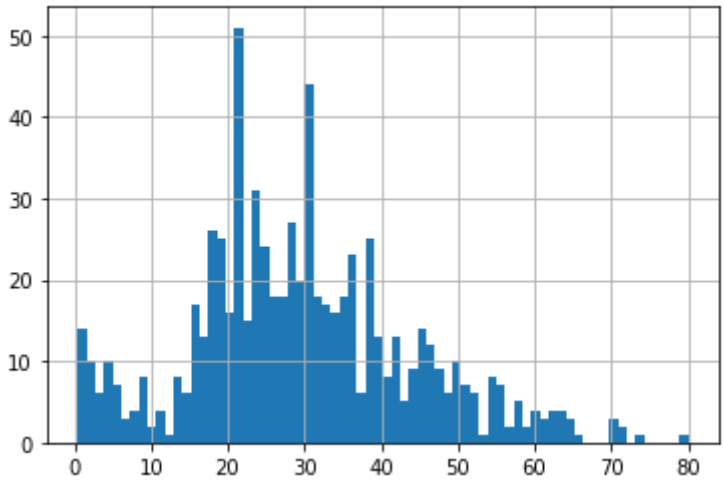
```
C:\Users\sathu\anaconda3\lib\site-packages\seaborn\_decorators.py:36: FutureWarnin
g: Pass the following variable as a keyword arg: x. From version 0.12, the only va
lid positional argument will be `data`, and passing other arguments without an exp
licit keyword will result in an error or misinterpretation.
  warnings.warn(
```

Out[11]:
```
<seaborn.axisgrid.FacetGrid at 0x2191a0bc3d0>
```



In [12]:
```
titanic_df['Age'].hist(bins=70)

titanic_df['person'].value_counts()
```

Out[12]:
```
male      537
female    271
child      83
Name: person, dtype: int64
```

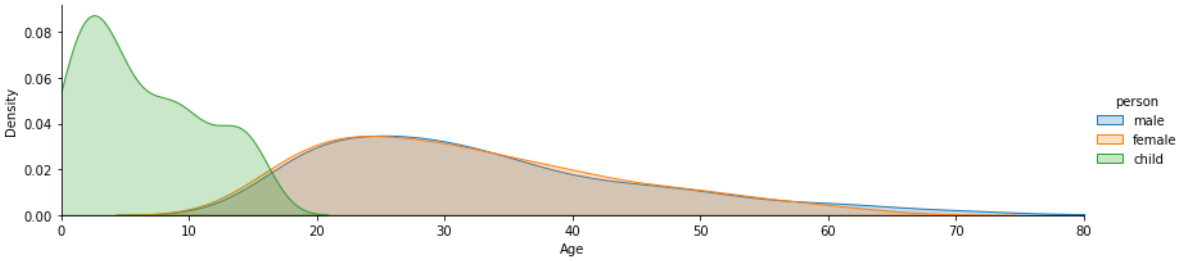


In [13]:
```
titanic_df['Age'].mean()
```

Out[13]:
```
29.69911764705882
```

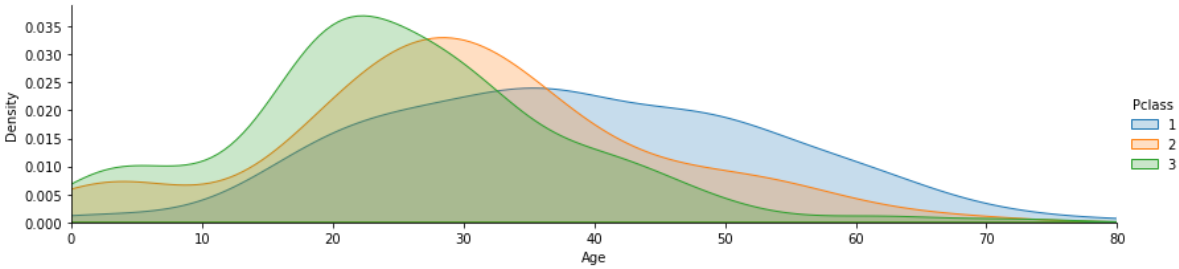
In [14]:
```
fig = sns.FacetGrid(titanic_df,hue='person',aspect=4)

fig.map(sns.kdeplot,'Age',shade=True)

oldest=titanic_df['Age'].max()

fig.set(xlim=(0,oldest))


fig.add_legend()
```

Out[14]:
```
<seaborn.axisgrid.FacetGrid at 0x219200ab040>
```



In [15]:
```
fig = sns.FacetGrid(titanic_df,hue='Pclass',aspect=4)

fig.map(sns.kdeplot,'Age',shade=True)

oldest=titanic_df['Age'].max()

fig.set(xlim=(0,oldest))


fig.add_legend()
```

Out[15]:
```
<seaborn.axisgrid.FacetGrid at 0x219200ceaf0>
```



In [16]:
```
Deck = titanic_df['Cabin'].dropna()
```

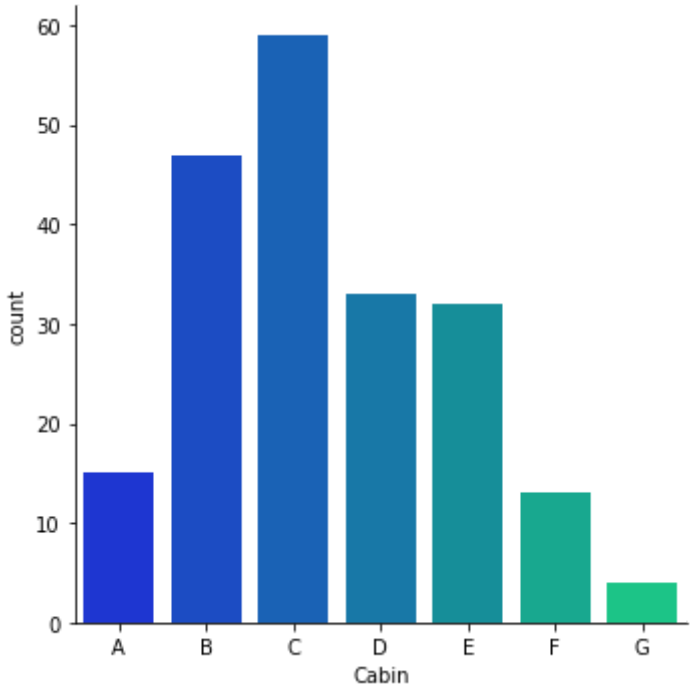
In [17]:
```
Deck.head(891)
```

Out[17]:
```
1              C85
3             C123
6              E46
10              G6
11            C103
          ...
871            D35
872    B51 B53 B55
879            C50
887            B42
889           C148
Name: Cabin, Length: 204, dtype: object
```

In [18]:
```
levels = []

for level in Deck:
    levels.append(level[0])

cabin_df = DataFrame(levels)

cabin_df.columns=['Cabin']

sns.catplot('Cabin',data=cabin_df,kind='count',palette='winter',order=list('ABCDEF(
```

```
C:\Users\sathu\anaconda3\lib\site-packages\seaborn\_decorators.py:36: FutureWarnin
g: Pass the following variable as a keyword arg: x. From version 0.12, the only va
lid positional argument will be `data`, and passing other arguments without an exp
licit keyword will result in an error or misinterpretation.
  warnings.warn(
```

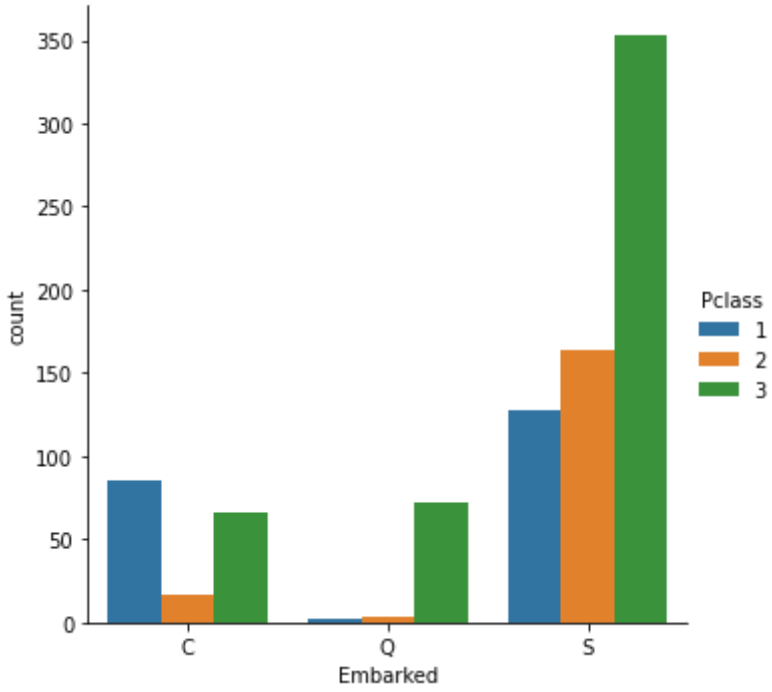
Out[18]:
```
<seaborn.axisgrid.FacetGrid at 0x21921181ee0>
```



In [19]:
```
sns.catplot('Embarked',data=titanic_df,hue='Pclass',kind='count',order=['C','Q','S
```

```
C:\Users\sathu\anaconda3\lib\site-packages\seaborn\_decorators.py:36: FutureWarnin
g: Pass the following variable as a keyword arg: x. From version 0.12, the only va
lid positional argument will be `data`, and passing other arguments without an exp
licit keyword will result in an error or misinterpretation.
  warnings.warn(
```

Out[19]:
```
<seaborn.axisgrid.FacetGrid at 0x21921144d60>
```



In [20]:
```
titanic_df['FamAl'] = titanic_df['SibSp'] + titanic_df['Parch']
```

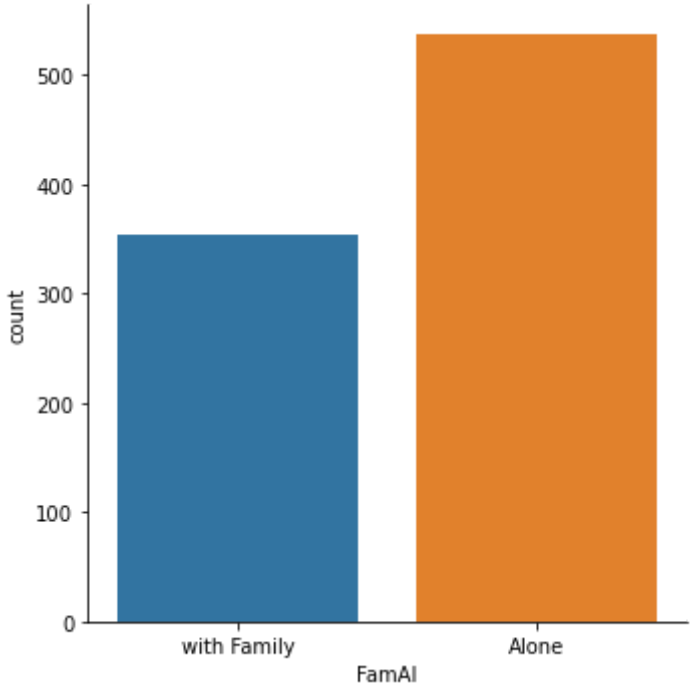
```
titanic_df['FamAl'].loc[titanic_df['FamAl'] >0] = 'with Family'

titanic_df['FamAl'].loc[titanic_df['FamAl'] ==0] = 'Alone'
```

```
C:\Users\sathu\AppData\Local\Temp\ipykernel_6988\586056827.py:3: SettingWithCopyWa
rning:
A value is trying to be set on a copy of a slice from a DataFrame

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stabl
e/user_guide/indexing.html#returning-a-view-versus-a-copy
  titanic_df['FamAl'].loc[titanic_df['FamAl'] >0] = 'with Family'
```

In [21]:
```
sns.catplot('FamAl', data=titanic_df,kind='count')
```

```
C:\Users\sathu\anaconda3\lib\site-packages\seaborn\_decorators.py:36: FutureWarnin
g: Pass the following variable as a keyword arg: x. From version 0.12, the only va
lid positional argument will be `data`, and passing other arguments without an exp
licit keyword will result in an error or misinterpretation.
  warnings.warn(
```

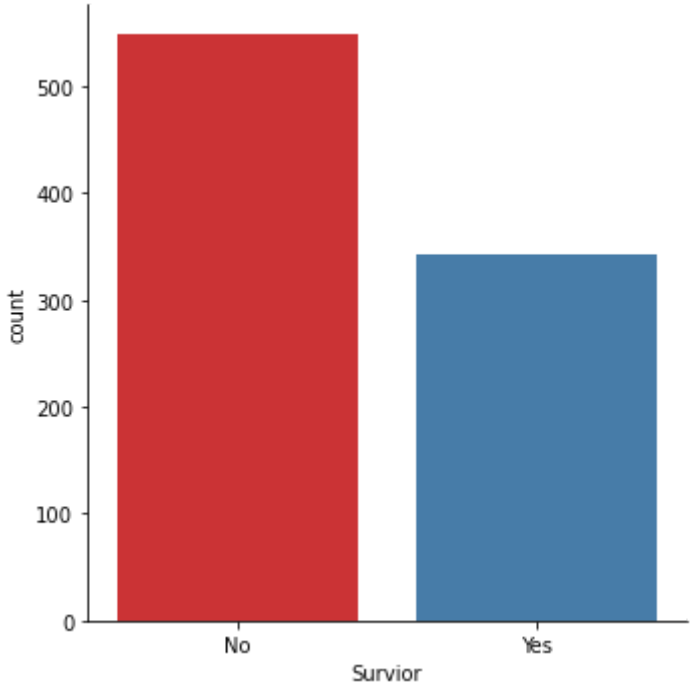
Out[21]:
```
<seaborn.axisgrid.FacetGrid at 0x2192117a340>
```



In [22]:
```
titanic_df['Survior'] = titanic_df.Survived.map({0:'No',1:'Yes'})

sns.catplot('Survior',data=titanic_df,kind='count',palette='Set1')
```

```
C:\Users\sathu\anaconda3\lib\site-packages\seaborn\_decorators.py:36: FutureWarnin
g: Pass the following variable as a keyword arg: x. From version 0.12, the only va
lid positional argument will be `data`, and passing other arguments without an exp
licit keyword will result in an error or misinterpretation.
  warnings.warn(
```

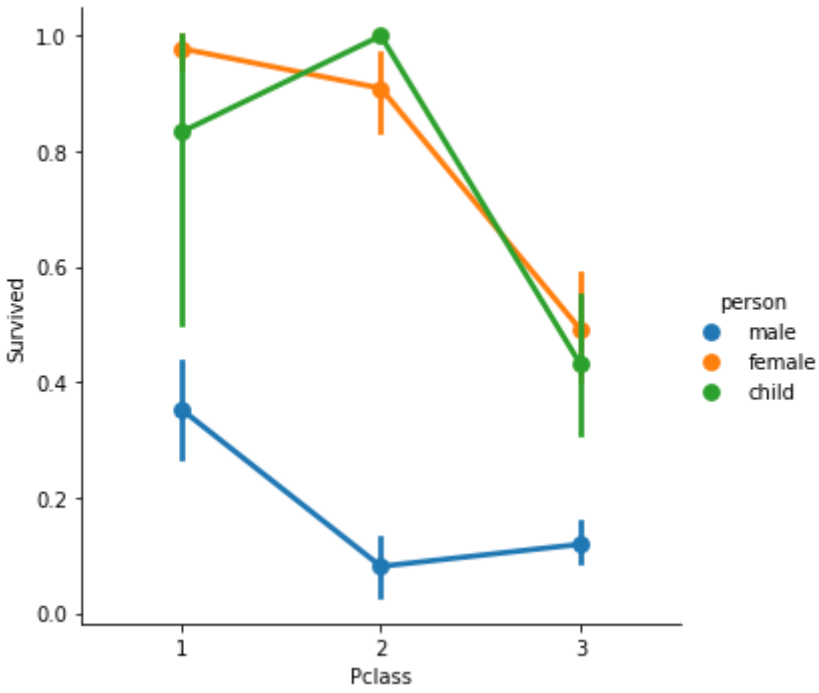
Out[22]:
```
<seaborn.axisgrid.FacetGrid at 0x219215ef310>
```



In [23]:
```
sns.factorplot('Pclass','Survived',hue='person',data=titanic_df)
```

```
C:\Users\sathu\anaconda3\lib\site-packages\seaborn\categorical.py:3717: UserWarnin
g: The `factorplot` function has been renamed to `catplot`. The original name will
be removed in a future release. Please update your code. Note that the default `ki
nd` in `factorplot` (`'point'`) has changed `'strip'` in `catplot`.
  warnings.warn(msg)
C:\Users\sathu\anaconda3\lib\site-packages\seaborn\_decorators.py:36: FutureWarnin
g: Pass the following variables as keyword args: x, y. From version 0.12, the only
valid positional argument will be `data`, and passing other arguments without an e
xplicit keyword will result in an error or misinterpretation.
  warnings.warn(
```

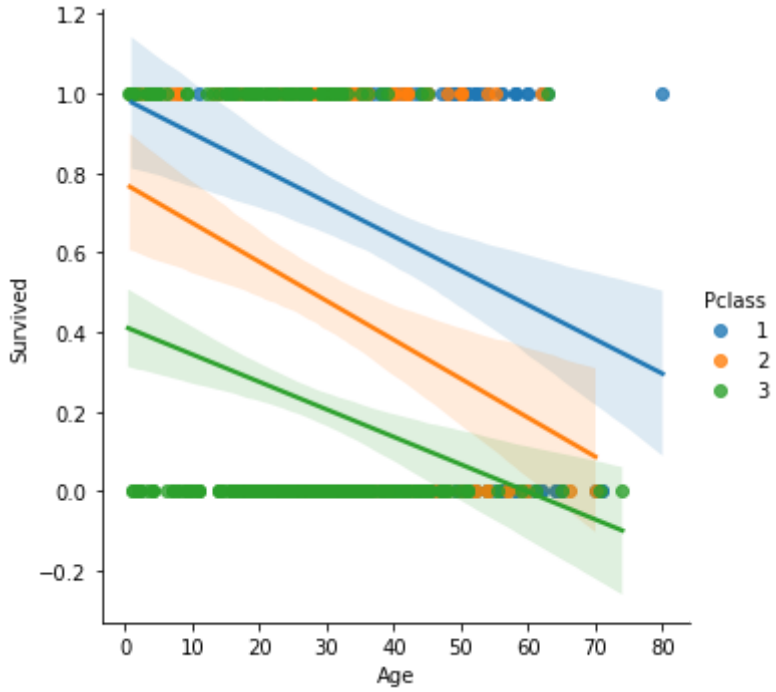
Out[23]:
```
<seaborn.axisgrid.FacetGrid at 0x21921292a60>
```



In [24]:
```
sns.lmplot('Age','Survived',hue='Pclass',data=titanic_df)
```

```
C:\Users\sathu\anaconda3\lib\site-packages\seaborn\_decorators.py:36: FutureWarnin
g: Pass the following variables as keyword args: x, y. From version 0.12, the only
valid positional argument will be `data`, and passing other arguments without an e
xplicit keyword will result in an error or misinterpretation.
  warnings.warn(
```

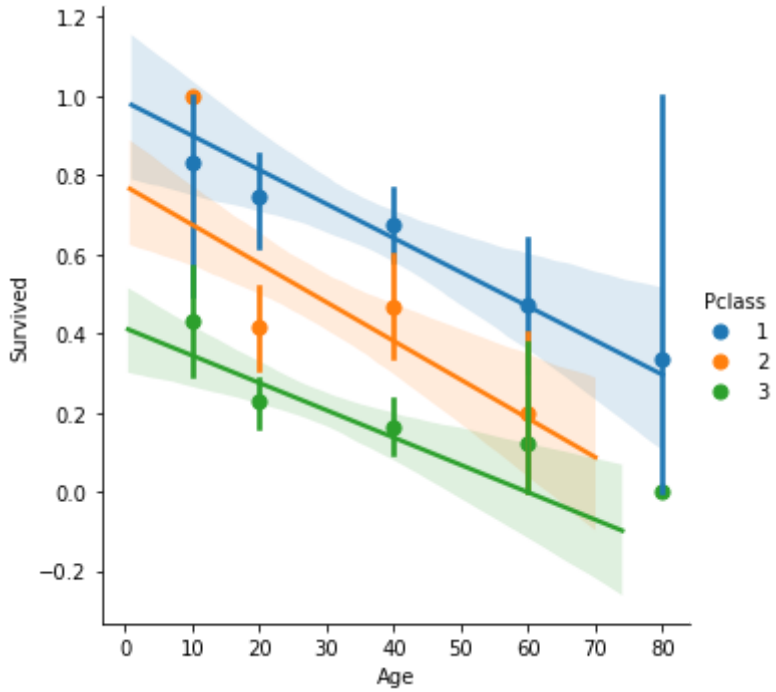
Out[24]:
```
<seaborn.axisgrid.FacetGrid at 0x21921726af0>
```



In [25]:
```
generations = [10,20,40,60,80]

sns.lmplot('Age','Survived',hue='Pclass',data=titanic_df,x_bins=generations)
```

```
C:\Users\sathu\anaconda3\lib\site-packages\seaborn\_decorators.py:36: FutureWarnin
g: Pass the following variables as keyword args: x, y. From version 0.12, the only
valid positional argument will be `data`, and passing other arguments without an e
xplicit keyword will result in an error or misinterpretation.
  warnings.warn(
```

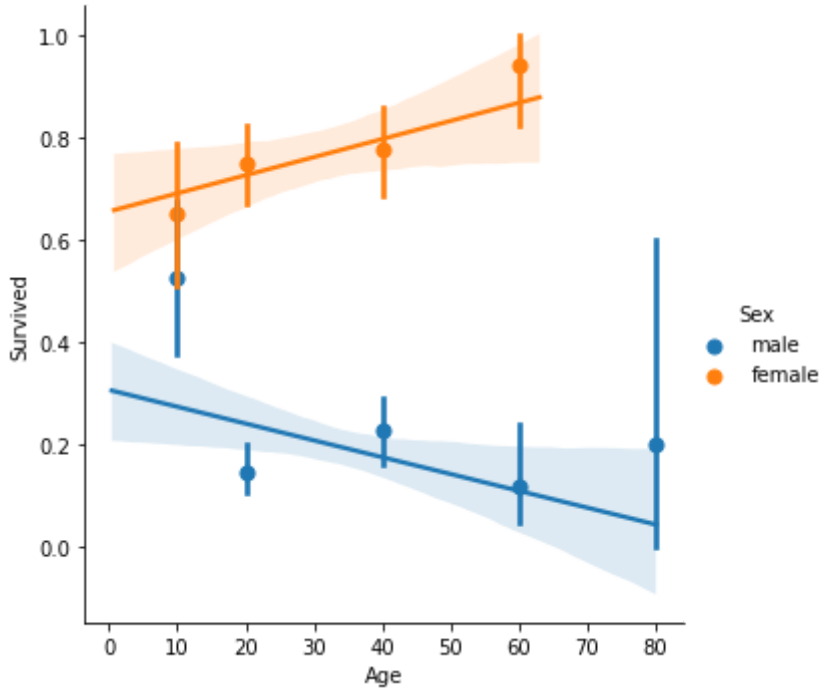
Out[25]:
```
<seaborn.axisgrid.FacetGrid at 0x21921e6c1c0>
```



In [26]:
```
sns.lmplot('Age','Survived',hue='Sex',data=titanic_df,x_bins=generations)
```

```
C:\Users\sathu\anaconda3\lib\site-packages\seaborn\_decorators.py:36: FutureWarning: Pass the following variables as keyword args: x, y. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword will result in an error or misinterpretation.
  warnings.warn(
```

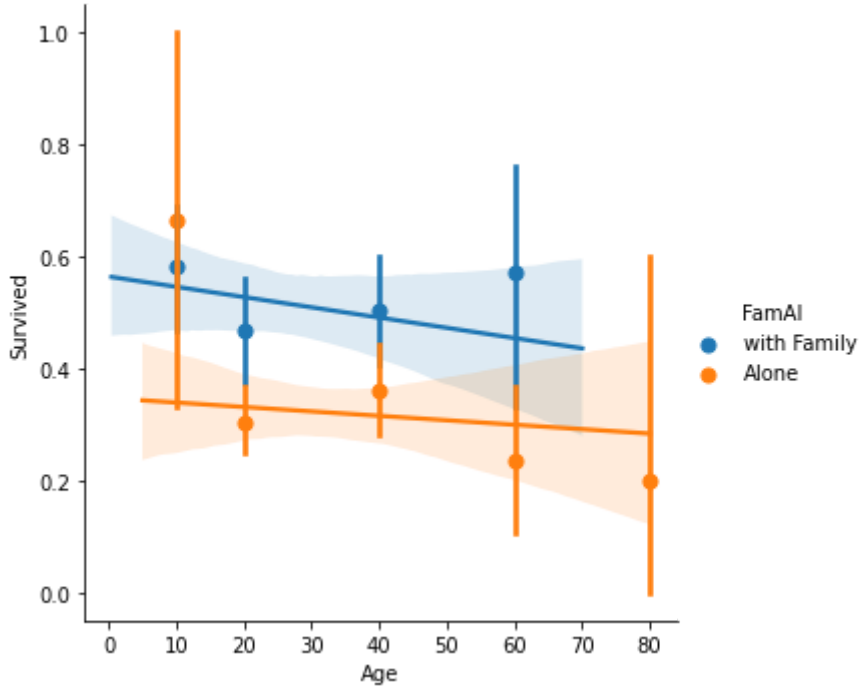
Out[26]:
```
<seaborn.axisgrid.FacetGrid at 0x21921eac0d0>
```

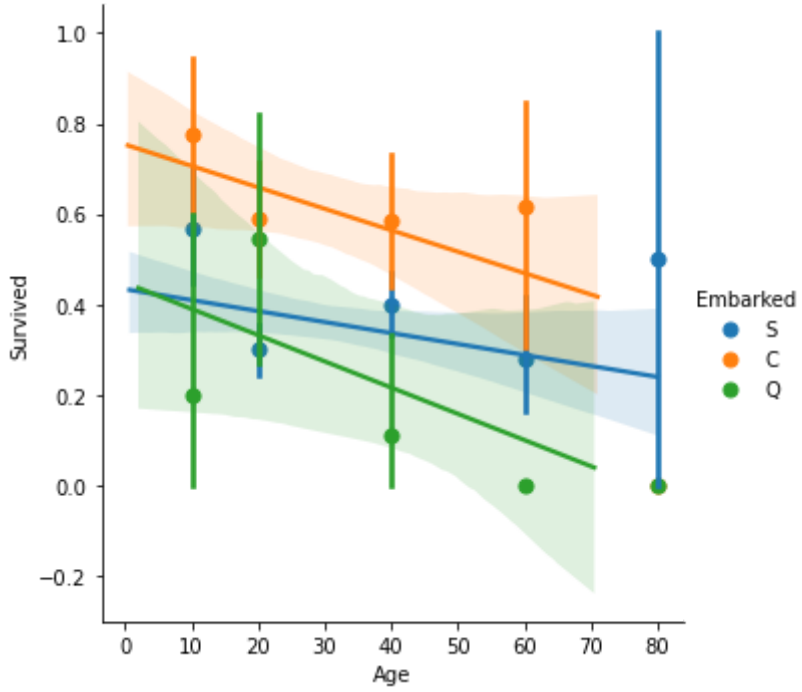


In [27]:
```
sns.lmplot('Age','Survived',hue='FamAl',data=titanic_df,x_bins=generations)

sns.lmplot('Age','Survived',hue='Embarked',data=titanic_df,x_bins=generations)
```

```
C:\Users\sathu\anaconda3\lib\site-packages\seaborn\_decorators.py:36: FutureWarning: Pass the following variables as keyword args: x, y. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword will result in an error or misinterpretation.
  warnings.warn(
C:\Users\sathu\anaconda3\lib\site-packages\seaborn\_decorators.py:36: FutureWarning: Pass the following variables as keyword args: x, y. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword will result in an error or misinterpretation.
  warnings.warn(
```

Out[27]:
```
<seaborn.axisgrid.FacetGrid at 0x2192006d700>
```

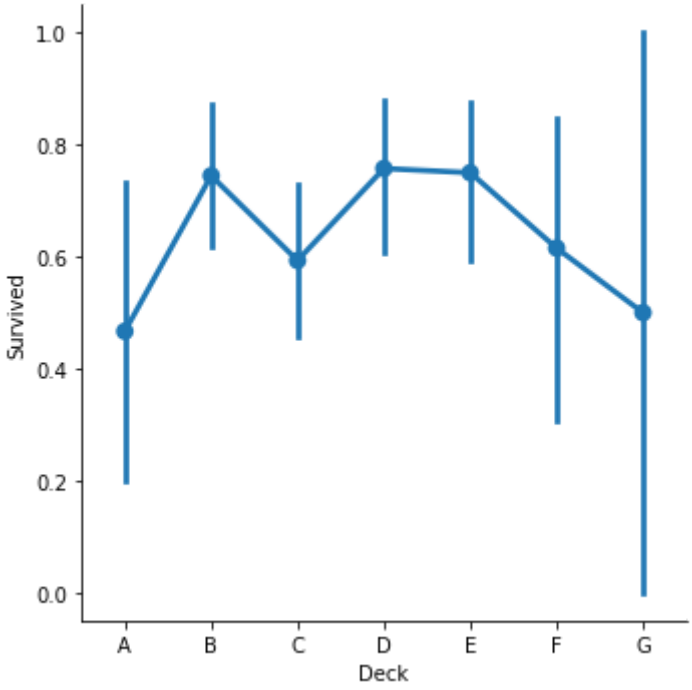




In [56]:
```
deck_df = titanic_df[['Survived','Cabin']].copy().dropna()

def deck_finder(cabin):

    return cabin[0][0]

deck_df['Deck'] = deck_df[['Cabin']].apply(deck_finder,axis=1)

deck_survived_df= deck_df.drop('Cabin',axis=1)

sns.factorplot(x = 'Deck',y = 'Survived',data=deck_survived_df, order=['A','B','C'
```

```
C:\Users\sathu\anaconda3\lib\site-packages\seaborn\categorical.py:3717: UserWarnin
g: The `factorplot` function has been renamed to `catplot`. The original name will
be removed in a future release. Please update your code. Note that the default `ki
nd` in `factorplot` (`'point'`) has changed `'strip'` in `catplot`.
  warnings.warn(msg)
```

Out[56]:
```
<seaborn.axisgrid.FacetGrid at 0x219279af3d0>
```



In [ ]: