Titanic Intro Project

September 2, 2018

```
In [6]: import pandas as pd
        from pandas import Series,DataFrame

In [7]: titanic_df = pd.read_csv('train.csv')

In [8]: titanic_df.head()
```

Out[8]:

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	A/5 21171	7.2500	NaN	S
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1	0	PC 17599	71.2833	C85	C
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/O2. 3101282	7.9250	NaN	S
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	113803	53.1000	C123	S
4	5	0	3	Allen, Mr. William Henry	male	35.0	0	0	373450	8.0500	NaN	S

```
In [9]: titanic_df.info()

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 891 entries, 0 to 890
Data columns (total 12 columns):
PassengerId    891 non-null int64
Survived       891 non-null int64
Pclass         891 non-null int64
Name           891 non-null object
Sex            891 non-null object
```

```
Age            714 non-null float64
SibSp          891 non-null int64
Parch          891 non-null int64
Ticket         891 non-null object
Fare           891 non-null float64
Cabin          204 non-null object
Embarked       889 non-null object
dtypes: float64(2), int64(5), object(5)
memory usage: 83.6+ KB
```

```
In [10]: import numpy as np
         import matplotlib.pyplot as plt
         import seaborn as sns
         %matplotlib inline
```

```
In [11]: def number(passenger):
             passengerid=passenger
             count=0
             for passengernumber in range(passengerid):
                 count=count+1
             return count
```

```
In [12]: titanic_df['count']=titanic_df[['PassengerId']].apply(number,axis=1)
```

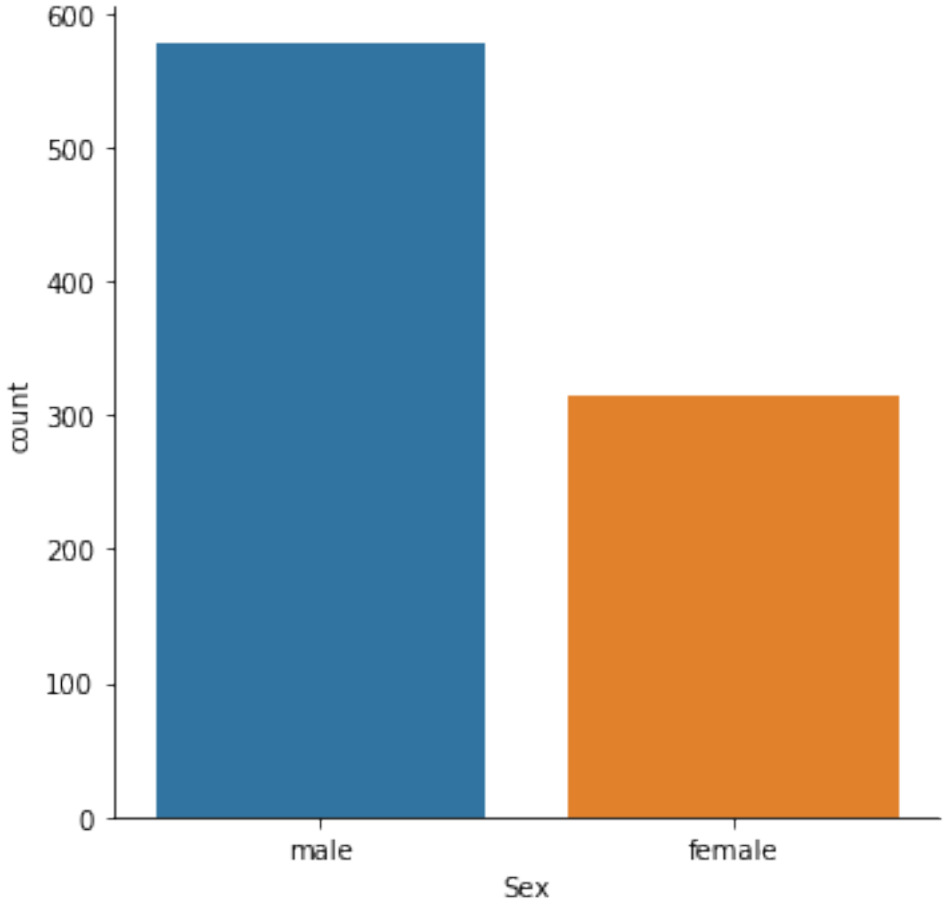
```
In [13]: titanic_df.head()
```

Out[13]:

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked	count
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	A/5 21171	7.2500	NaN	S	1
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1	0	PC 17599	71.2833	C85	C	2
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/O2. 3101282	7.9250	NaN	S	3
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	113803	53.1000	C123	S	4
4	5	0	3	Allen, Mr. William Henry	male	35.0	0	0	373450	8.0500	NaN	S	5

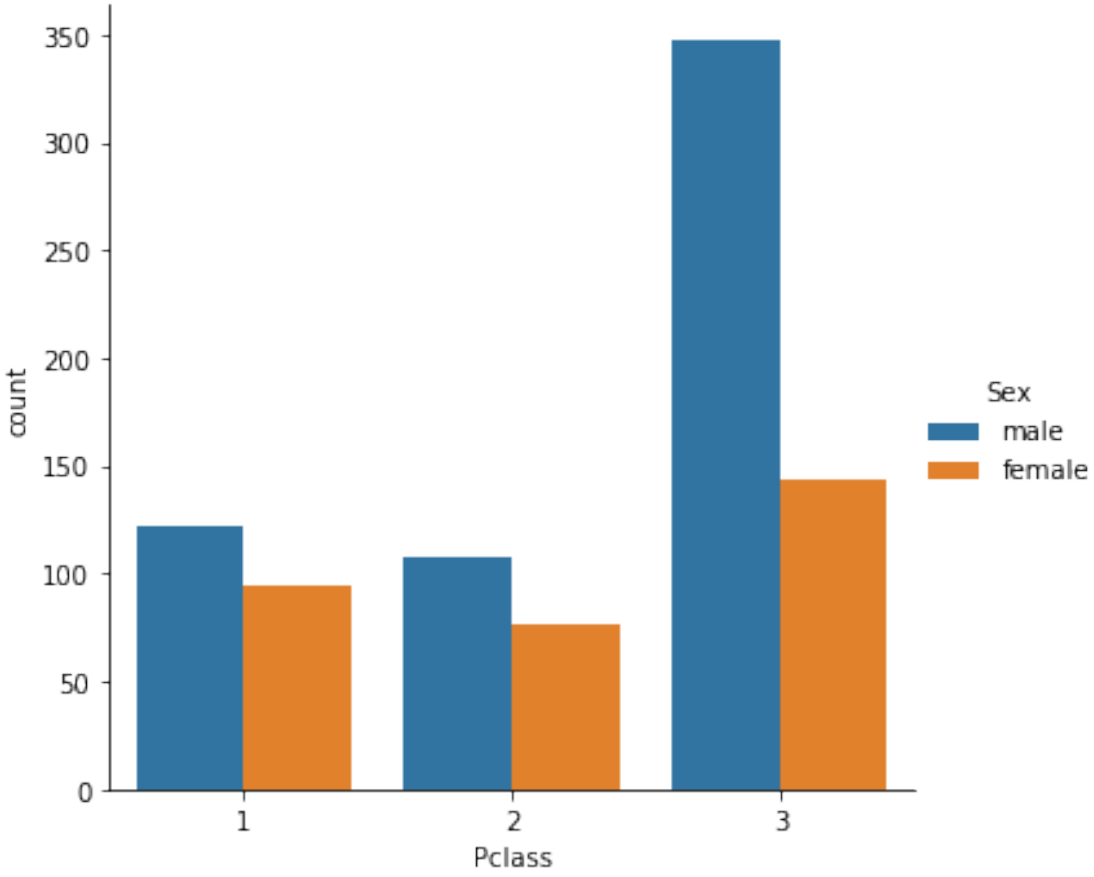
```
In [14]: sns.catplot('Sex',kind='count',data=titanic_df)
```

Out[14]: <seaborn.axisgrid.FacetGrid at 0x7f9d4eb29750>



In [15]: sns.catplot('Pclass',kind='count',hue='Sex',data=titanic_df)

Out[15]: <seaborn.axisgrid.FacetGrid at 0x7f9d905ed410>




```
In [16]: def male_female_child(passenger):
             age,sex=passenger
             if age<16:
                 return 'child'
             else:
                 return sex

In [17]: titanic_df['person']=titanic_df[['Age','Sex']].apply(male_female_child,axis=1)

In [18]: titanic_df[0:10]

Out[18]:    PassengerId  Survived  Pclass  \
         0            1         0       3
         1            2         1       1
         2            3         1       3
         3            4         1       1
         4            5         0       3
         5            6         0       3
         6            7         0       1
```

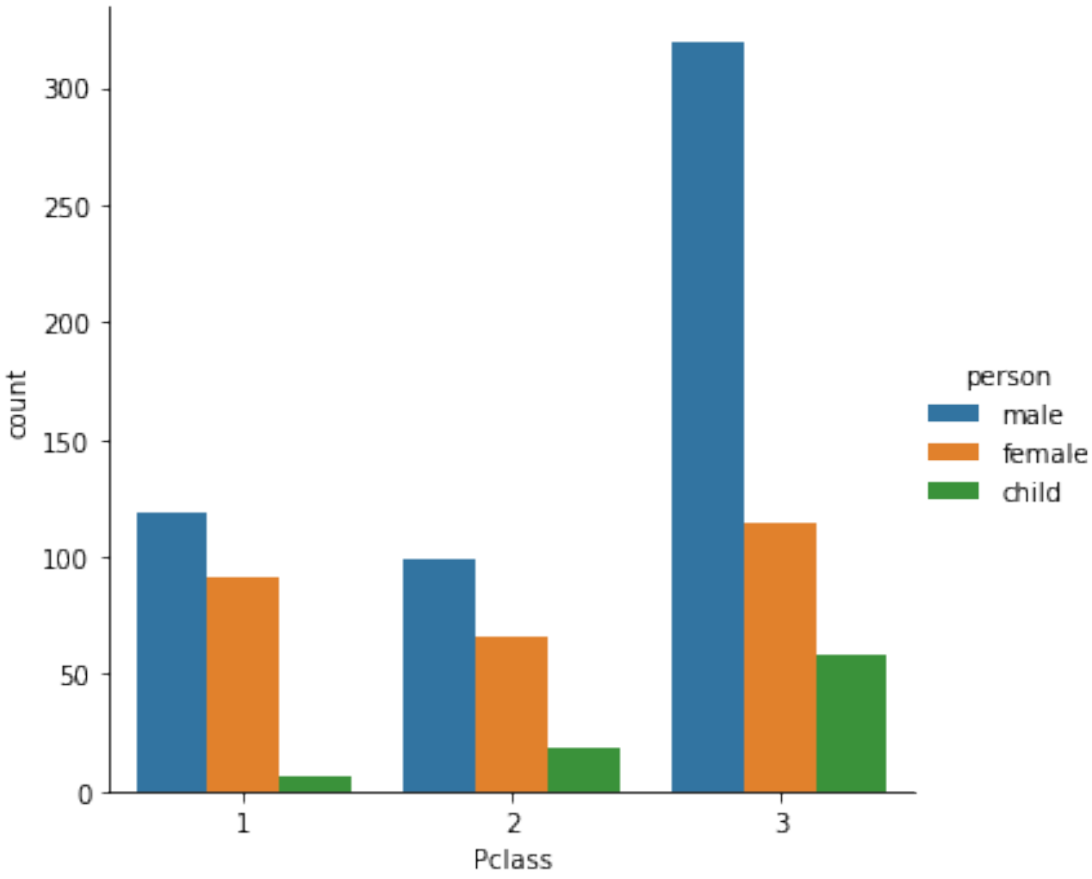
```
7            8         0       3
8            9         1       3
9           10         1       2

                                                 Name     Sex   Age  SibSp  \
0                             Braund, Mr. Owen Harris    male  22.0      1
1   Cumings, Mrs. John Bradley (Florence Briggs Th...  female  38.0      1
2                              Heikkinen, Miss. Laina  female  26.0      0
3        Futrelle, Mrs. Jacques Heath (Lily May Peel)  female  35.0      1
4                            Allen, Mr. William Henry    male  35.0      0
5                                    Moran, Mr. James    male   NaN      0
6                             McCarthy, Mr. Timothy J    male  54.0      0
7                      Palsson, Master. Gosta Leonard    male   2.0      3
8   Johnson, Mrs. Oscar W (Elisabeth Vilhelmina Berg)  female  27.0      0
9                 Nasser, Mrs. Nicholas (Adele Achem)  female  14.0      1

   Parch            Ticket     Fare Cabin Embarked  count  person
0      0         A/5 21171   7.2500   NaN        S      1    male
1      0          PC 17599  71.2833   C85        C      2  female
2      0  STON/O2. 3101282   7.9250   NaN        S      3  female
3      0            113803  53.1000  C123        S      4  female
4      0            373450   8.0500   NaN        S      5    male
5      0            330877   8.4583   NaN        Q      6    male
6      0             17463  51.8625   E46        S      7    male
7      1            349909  21.0750   NaN        S      8   child
8      2            347742  11.1333   NaN        S      9  female
9      0            237736  30.0708   NaN        C     10   child
```

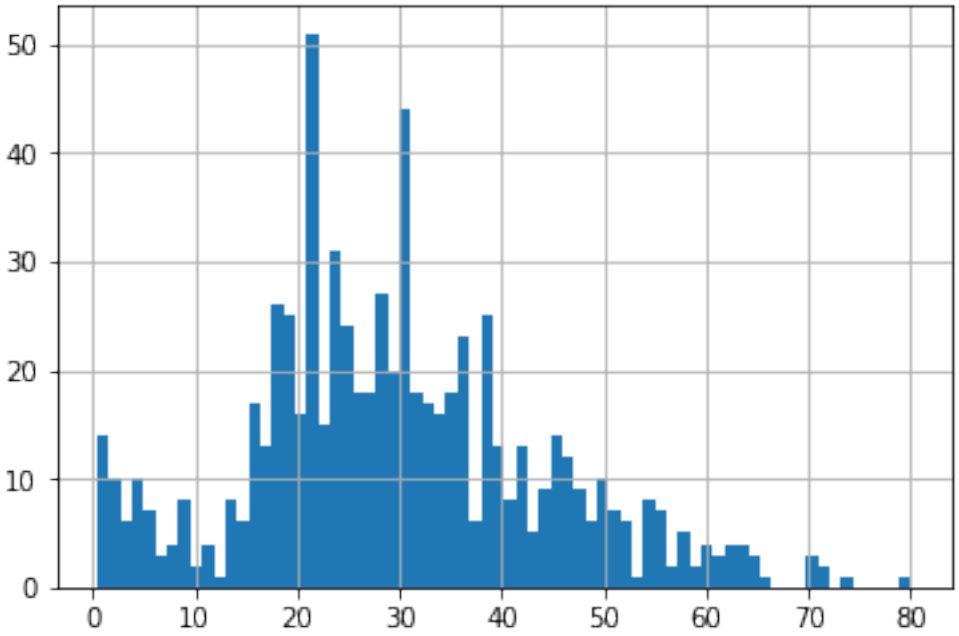
In [19]:
```
sns.catplot('Pclass',kind='count',data=titanic_df,hue='person')
```

Out[19]:
```
<seaborn.axisgrid.FacetGrid at 0x7f9d65edd790>
```




```
In [20]: titanic_df['Age'].hist(bins=70)
```

```
Out[20]: <matplotlib.axes._subplots.AxesSubplot at 0x7f9d90502950>
```




```
In [21]: titanic_df['Age'].mean()
```

```
Out[21]: 29.69911764705882
```

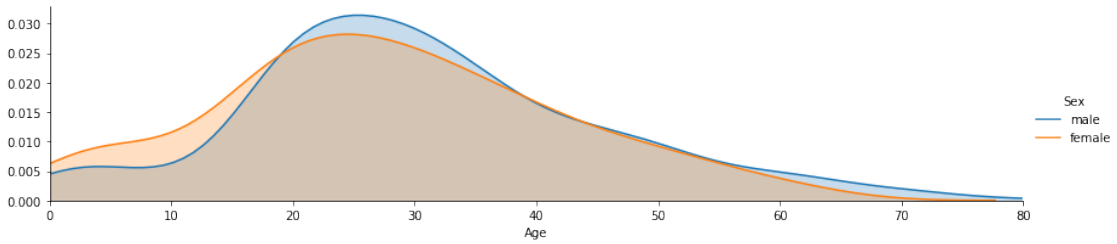
```
In [22]: titanic_df['person'].value_counts()
```

```
Out[22]: male      537
         female    271
         child      83
         Name: person, dtype: int64
```

```
In [23]: fig=sns.FacetGrid(titanic_df,hue='Sex',aspect=4)
         fig.map(sns.kdeplot,'Age',shade=True)
         oldest=titanic_df['Age'].max()
         fig.set(xlim=(0,oldest))
         fig.add_legend()
```

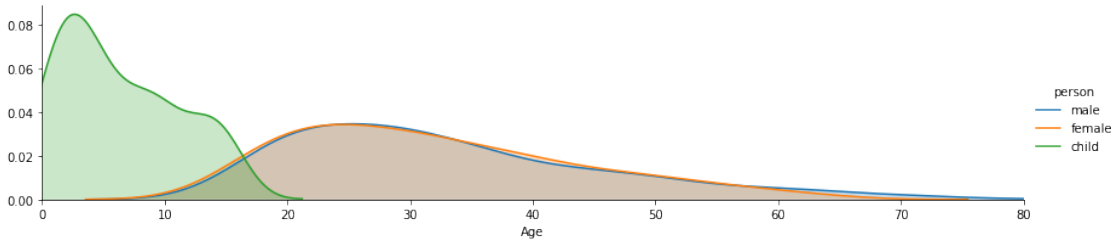
```
/home/naman/.local/lib/python2.7/site-packages/scipy/stats/stats.py:1713: FutureWarning: Using
  return np.add.reduce(sorted[indexer] * weights, axis=axis) / sumval
```

```
Out[23]: <seaborn.axisgrid.FacetGrid at 0x7f9d65c45410>
```



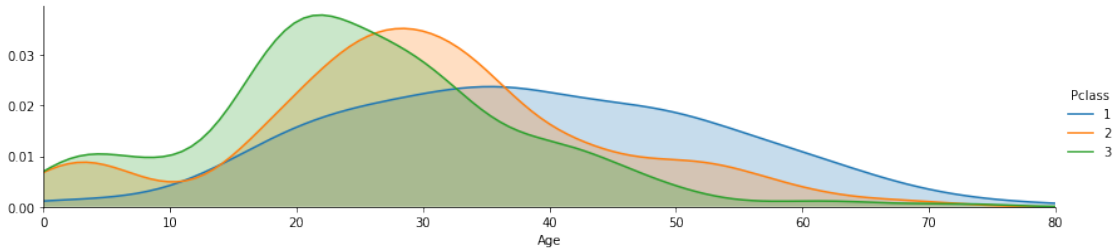
```
In [24]: fig=sns.FacetGrid(titanic_df,hue='person',aspect=4)
         fig.map(sns.kdeplot,'Age',shade=True)
         oldest=titanic_df['Age'].max()
         fig.set(xlim=(0,oldest))
         fig.add_legend()

Out[24]: <seaborn.axisgrid.FacetGrid at 0x7f9d65d9bb90>
```




```
In [25]: 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[25]: <seaborn.axisgrid.FacetGrid at 0x7f9d4ec40fd0>
```




```
In [26]: titanic_df.head()

Out[26]:    PassengerId  Survived  Pclass  \
         0            1         0       3
         1            2         1       1
         2            3         1       3
         3            4         1       1
         4            5         0       3
```

```
                                                 Name     Sex   Age  SibSp  \
0                             Braund, Mr. Owen Harris    male  22.0      1
1   Cumings, Mrs. John Bradley (Florence Briggs Th...  female  38.0      1
2                              Heikkinen, Miss. Laina  female  26.0      0
3        Futrelle, Mrs. Jacques Heath (Lily May Peel)  female  35.0      1
4                            Allen, Mr. William Henry    male  35.0      0

   Parch            Ticket     Fare Cabin Embarked  count  person
0      0         A/5 21171   7.2500   NaN        S      1    male
1      0          PC 17599  71.2833   C85        C      2  female
2      0  STON/O2. 3101282   7.9250   NaN        S      3  female
3      0            113803  53.1000  C123        S      4  female
4      0            373450   8.0500   NaN        S      5    male
```

In [27]:
```
deck=titanic_df['Cabin'].dropna()
```

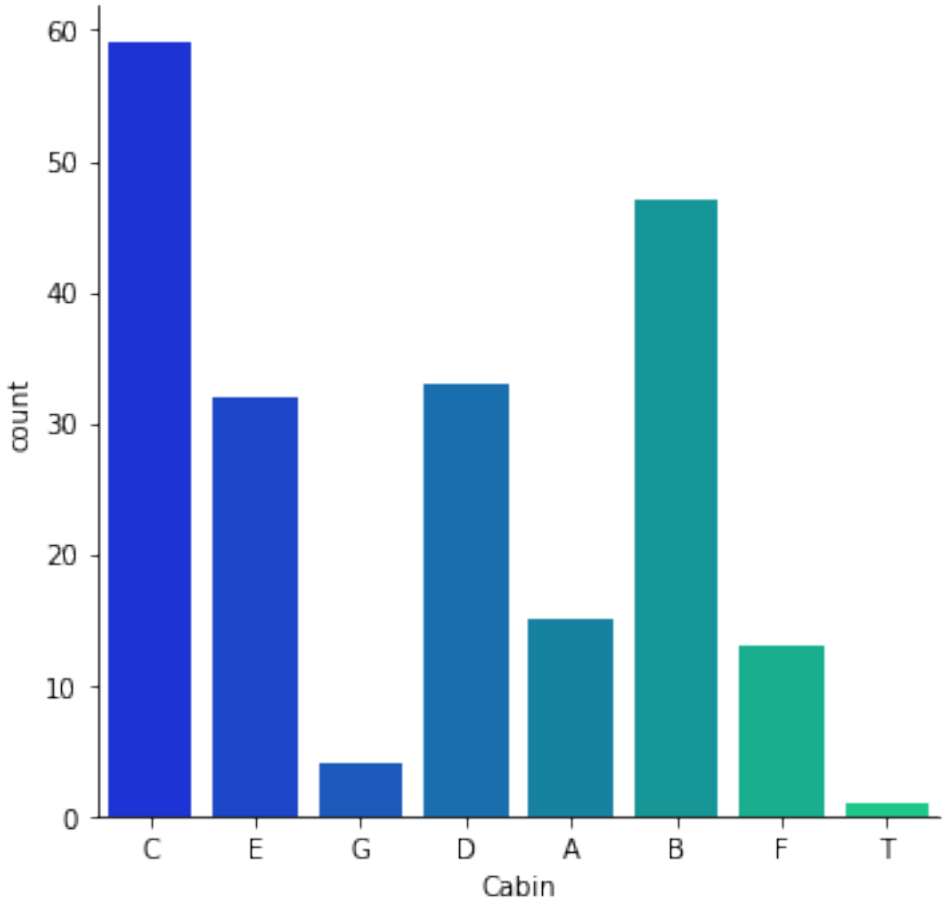
In [28]:
```
deck.head()
```

Out[28]:
```
1      C85
3     C123
6      E46
10      G6
11    C103
Name: Cabin, dtype: object
```

In [29]:
```
levels=[]
for level in deck:
    levels.append(level[0])

cabin_df=DataFrame(levels)
cabin_df.columns=['Cabin']
sns.catplot('Cabin',kind='count',data=cabin_df,palette='winter')
```

Out[29]:
```
<seaborn.axisgrid.FacetGrid at 0x7f9d65cc8b10>
```




```
In [30]: cabin_df
```

Out[30]:

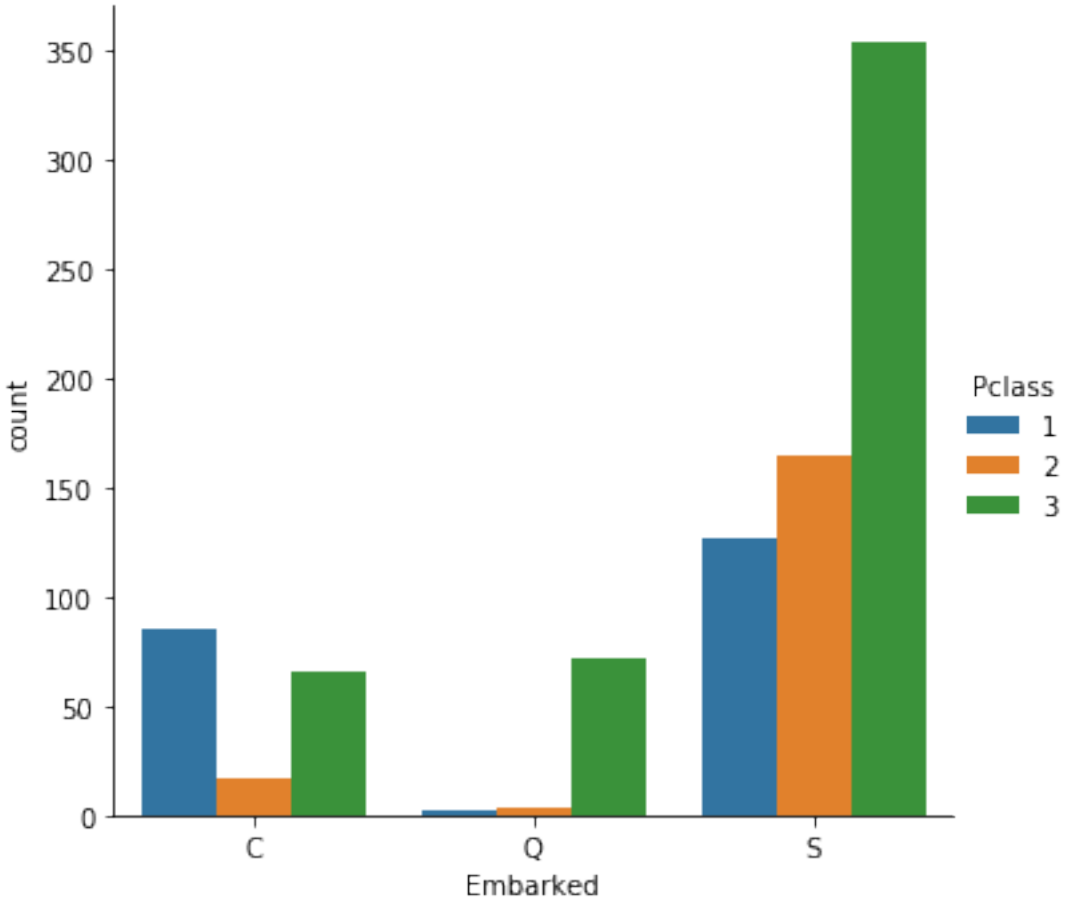
	Cabin
0	C
1	C
2	E
3	G
4	C
5	D
6	A
7	C
8	B
9	D
10	B
11	C
12	B
13	C
14	F

```
15      F
16      C
17      E
18      A
19      D
20      D
21      C
22      B
23      E
24      D
25      F
26      D
27      C
28      B
29      F
..    ...
174     E
175     B
176     B
177     D
178     E
179     F
180     B
181     B
182     D
183     B
184     D
185     B
186     A
187     E
188     B
189     B
190     E
191     B
192     E
193     C
194     C
195     D
196     E
197     D
198     A
199     D
200     B
201     C
202     B
203     C

[204 rows x 1 columns]
```

In [31]: sns.catplot('Embarked',data=titanic_df,kind='count',hue='Pclass',order=['C','Q','S'])

Out[31]: <seaborn.axisgrid.FacetGrid at 0x7f9d65c865d0>



In [32]: titanic_df['Alone']=titanic_df['SibSp']+titanic_df['Parch']

In [33]: titanic_df['Alone']

Out[33]:
0	1
1	1
2	0
3	1
4	0
5	0
6	0
7	4
8	2
9	1
10	2

```
11      0
12      0
13      6
14      0
15      0
16      5
17      0
18      1
19      0
20      0
21      0
22      0
23      0
24      4
25      6
26      0
27      5
28      0
29      0
        ..
861     1
862     0
863    10
864     0
865     0
866     1
867     0
868     0
869     2
870     0
871     2
872     0
873     0
874     1
875     0
876     0
877     0
878     0
879     1
880     1
881     0
882     0
883     0
884     0
885     5
886     0
887     0
888     3
```

```
889    0
890    0
Name: Alone, Length: 891, dtype: int64
```

```
In [34]: titanic_df['Alone'].loc[titanic_df['Alone']>0] = 'With Family'
         titanic_df['Alone'].loc[titanic_df['Alone']==0] = 'Alone'
```

```
/home/naman/.local/lib/python2.7/site-packages/pandas/core/indexing.py:189: SettingWithCopyWarn
A value is trying to be set on a copy of a slice from a DataFrame

See the caveats in the documentation: http://pandas.pydata.org/pandas-docs/stable/indexing.html
  self._setitem_with_indexer(indexer, value)
```

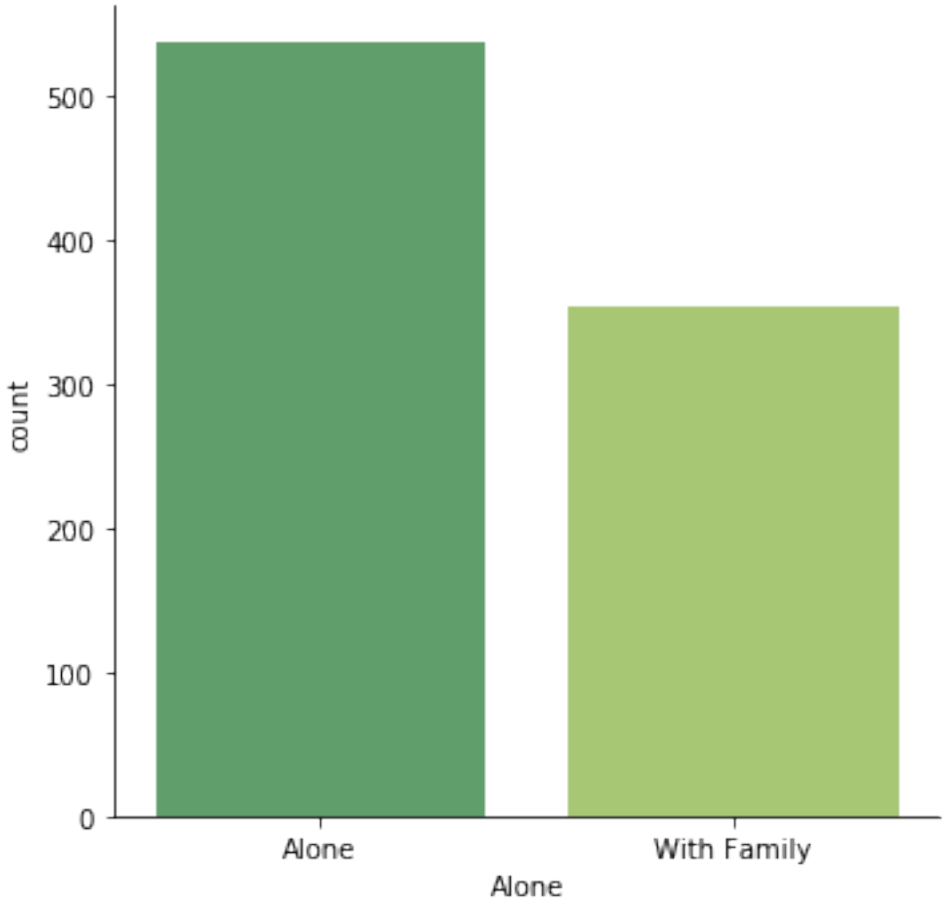
```
In [35]: titanic_df.head()
```

Out[35]:

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked	count	person	Alone
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	A/5 21171	7.2500	NaN	S	1	male	With Family
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1	0	PC 17599	71.2833	C85	C	2	female	With Family
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/O2. 3101282	7.9250	NaN	S	3	female	Alone
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	113803	53.1000	C123	S	4	female	With Family
4	5	0	3	Allen, Mr. William Henry	male	35.0	0	0	373450	8.0500	NaN	S	5	male	Alone

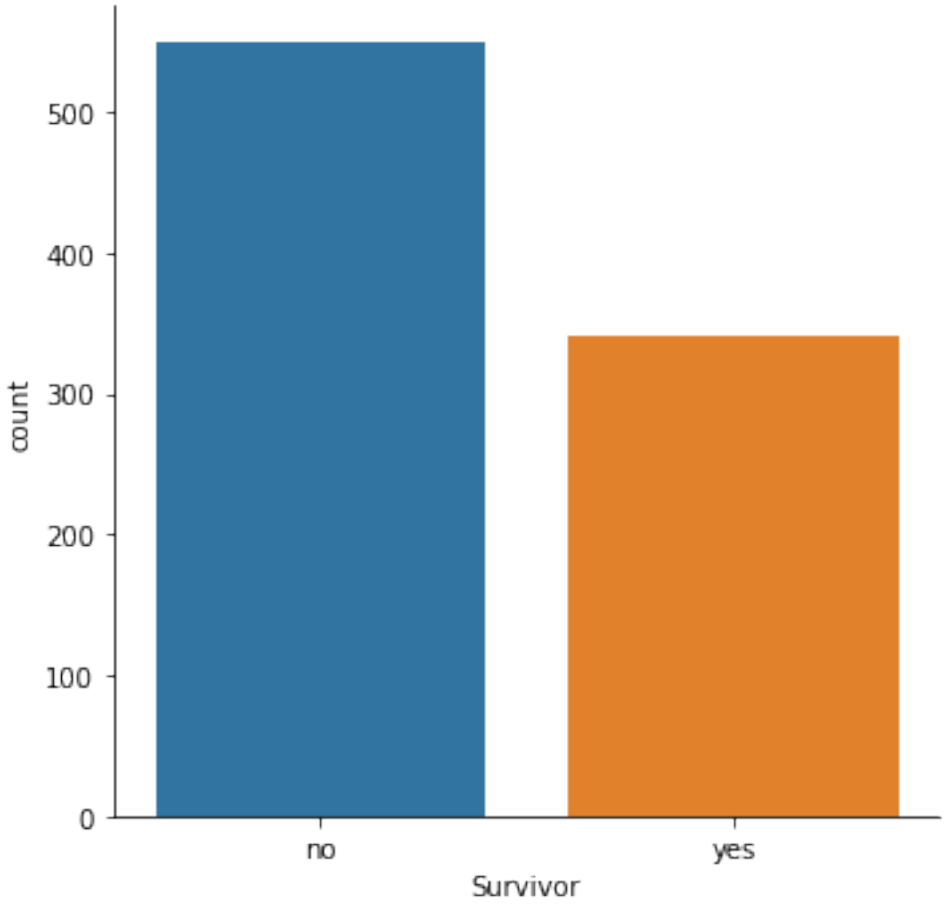
```
In [36]: sns.catplot('Alone',kind='count',data=titanic_df,order=['Alone','With Family'],palette
```

```
Out[36]: <seaborn.axisgrid.FacetGrid at 0x7f9d65c2c790>
```



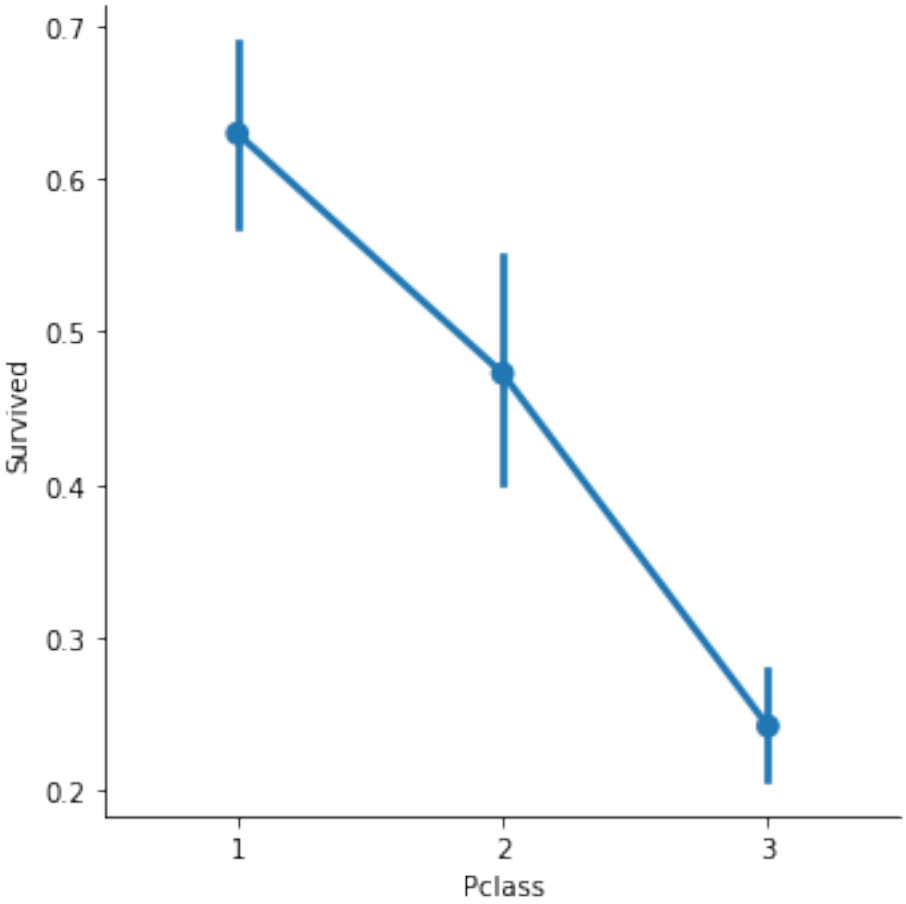

```
In [37]: titanic_df['Survivor']=titanic_df.Survived.map({0:'no',1:'yes'})
         sns.catplot('Survivor',kind='count',data=titanic_df)
```

```
Out[37]: <seaborn.axisgrid.FacetGrid at 0x7f9d65c45790>
```



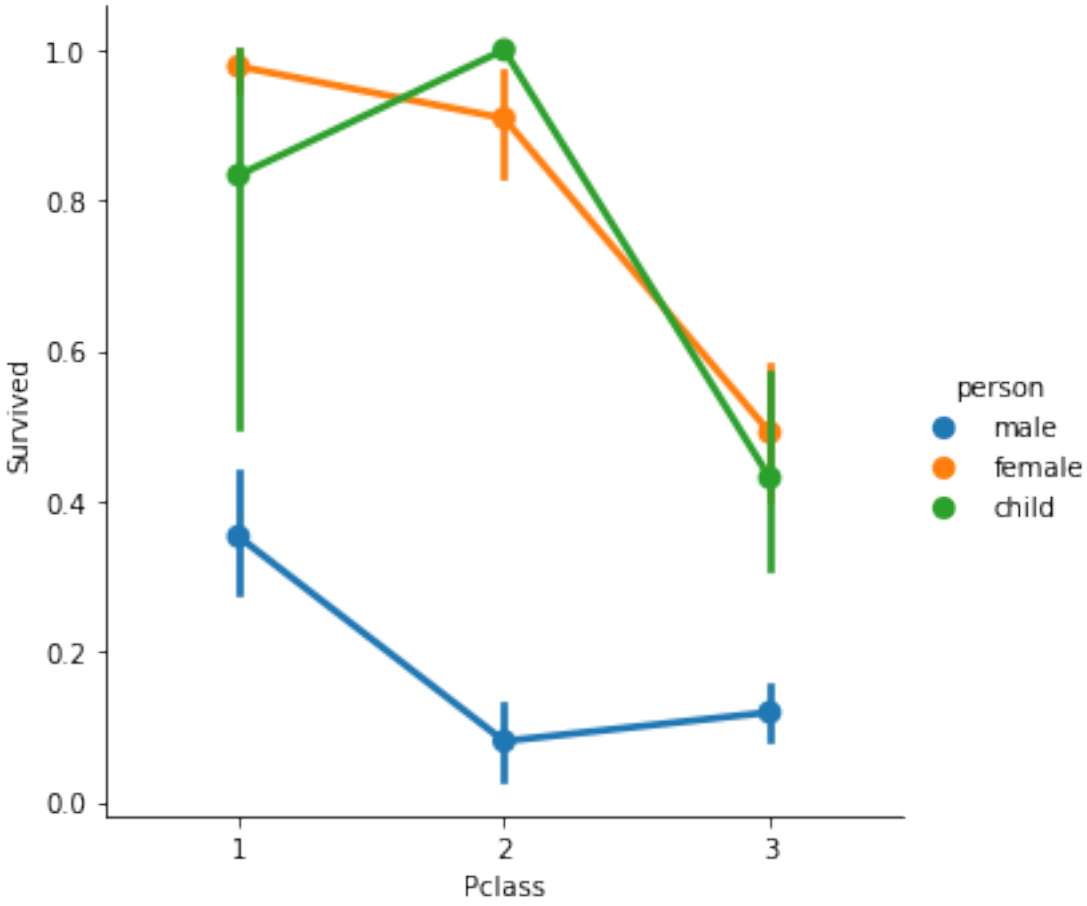

```
In [38]: sns.catplot(x='Pclass',y='Survived',kind='point',data=titanic_df,aspect=1)
```

```
Out[38]: <seaborn.axisgrid.FacetGrid at 0x7f9d6590ef10>
```



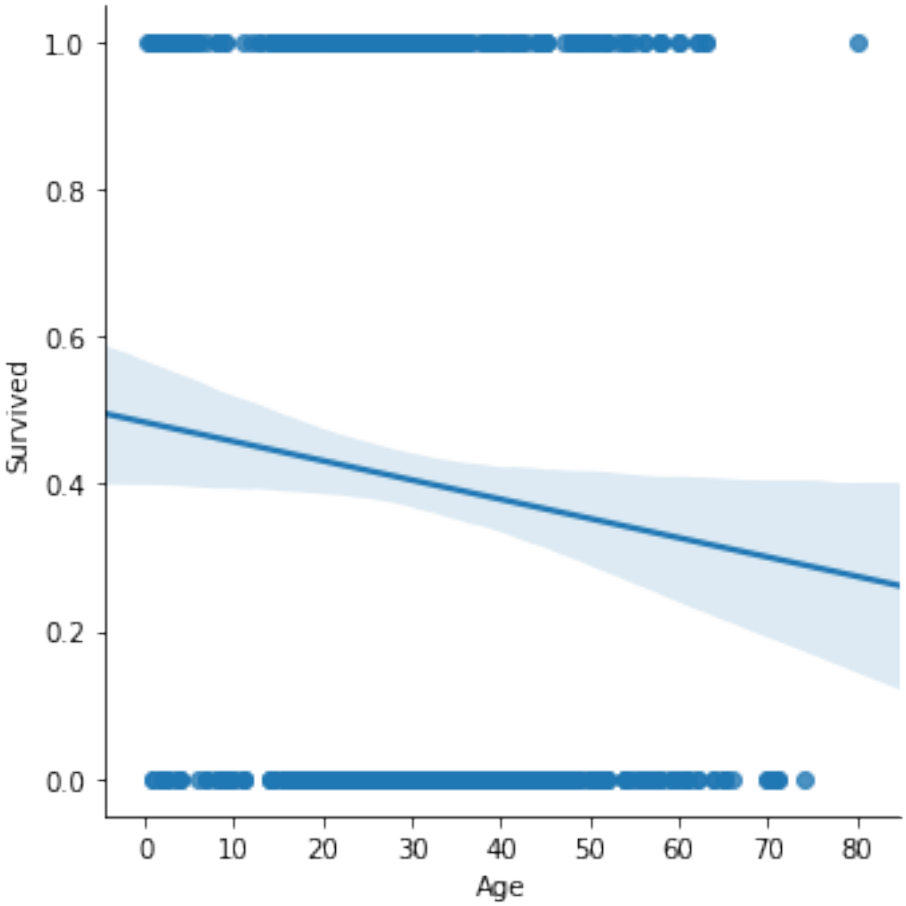

```
In [39]: sns.catplot(x='Pclass',y='Survived',hue='person',kind='point',data=titanic_df,aspect=
```

```
Out[39]: <seaborn.axisgrid.FacetGrid at 0x7f9d658dbf50>
```



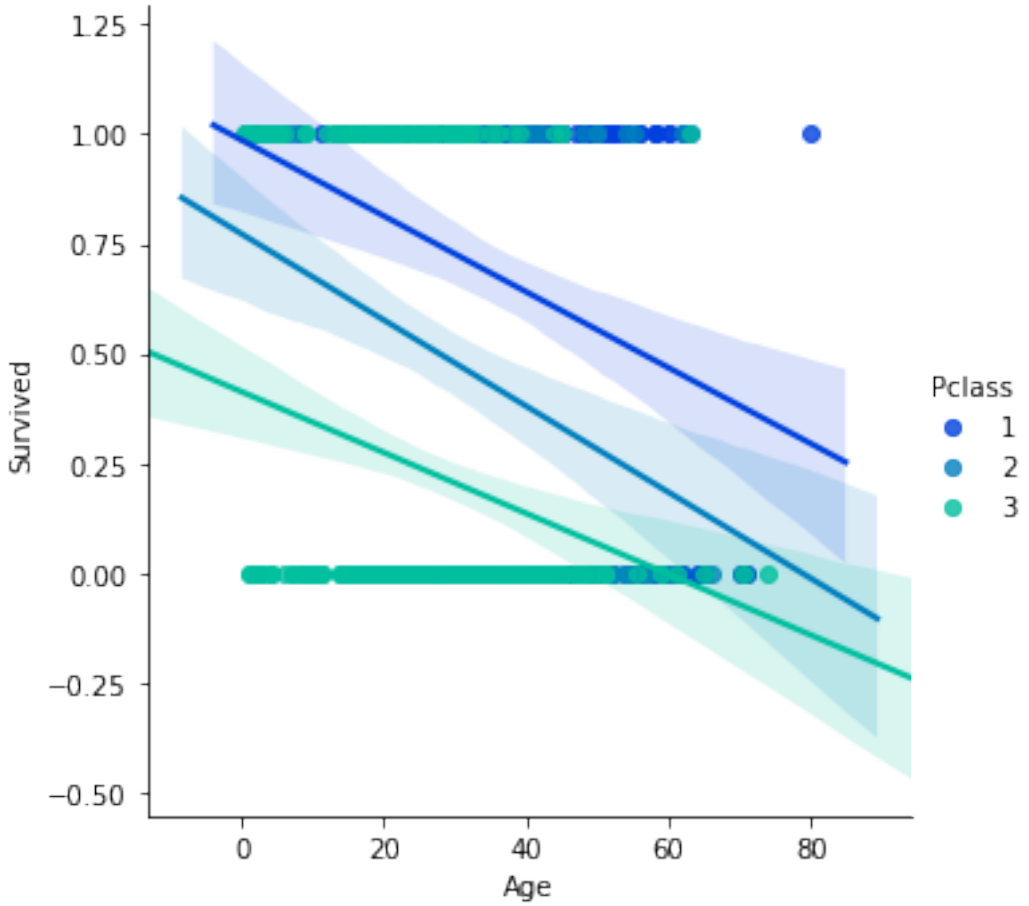

```
In [40]: sns.lmplot('Age','Survived',data=titanic_df)
```

```
Out[40]: <seaborn.axisgrid.FacetGrid at 0x7f9d43ff8350>
```



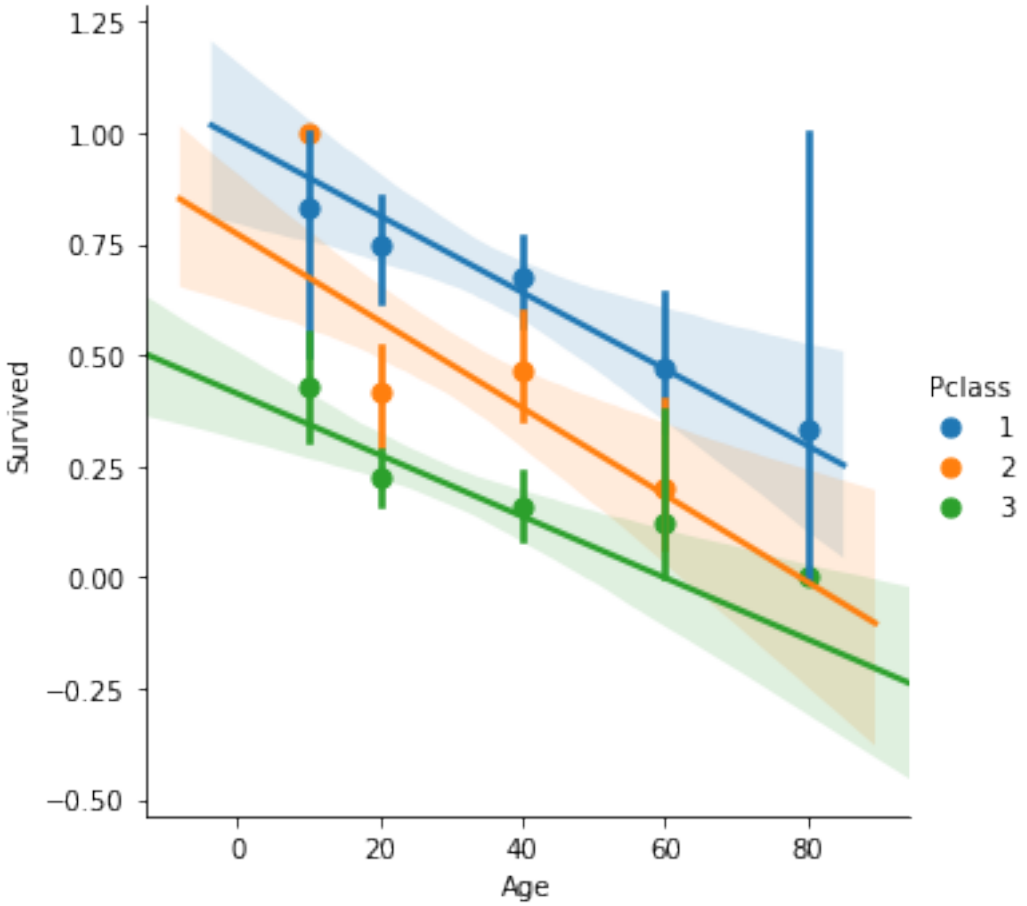

```
In [41]: sns.lmplot('Age','Survived',data=titanic_df,hue='Pclass',palette='winter')
```

```
Out[41]: <seaborn.axisgrid.FacetGrid at 0x7f9d4400de90>
```



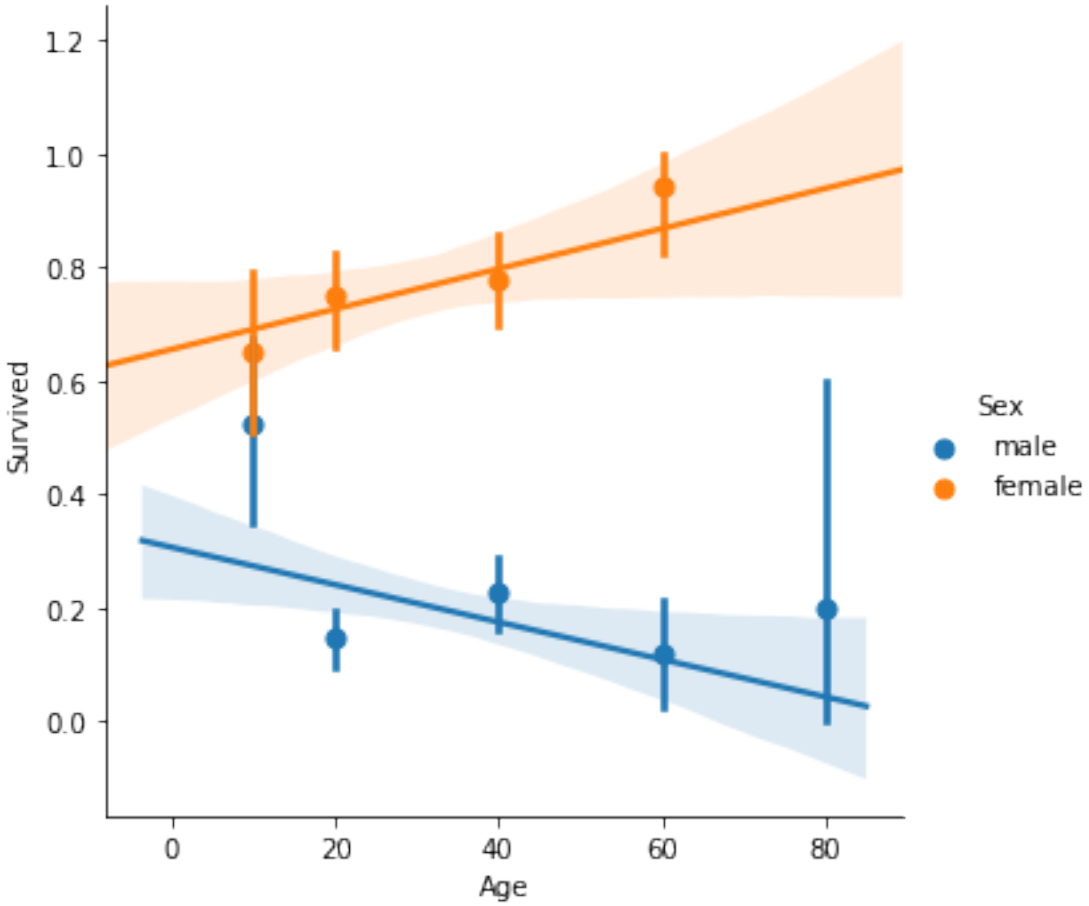

```
In [42]: generations = [10,20,40,60,80]
         sns.lmplot('Age','Survived',data=titanic_df,hue='Pclass',x_bins=generations)

Out[42]: <seaborn.axisgrid.FacetGrid at 0x7f9d43e7c650>
```




```
In [43]: sns.lmplot('Age','Survived',data=titanic_df,hue='Sex',x_bins=generations)
```

```
Out[43]: <seaborn.axisgrid.FacetGrid at 0x7f9d43f537d0>
```




```
In [44]: titanic_df
```

Out[44]:

	PassengerId	Survived	Pclass	\
0	1	0	3	
1	2	1	1	
2	3	1	3	
3	4	1	1	
4	5	0	3	
5	6	0	3	
6	7	0	1	
7	8	0	3	
8	9	1	3	
9	10	1	2	
10	11	1	3	
11	12	1	1	
12	13	0	3	
13	14	0	3	
14	15	0	3	

```
15            16         1       2
16            17         0       3
17            18         1       2
18            19         0       3
19            20         1       3
20            21         0       2
21            22         1       2
22            23         1       3
23            24         1       1
24            25         0       3
25            26         1       3
26            27         0       3
27            28         0       1
28            29         1       3
29            30         0       3
..           ...       ...     ...
861          862         0       2
862          863         1       1
863          864         0       3
864          865         0       2
865          866         1       2
866          867         1       2
867          868         0       1
868          869         0       3
869          870         1       3
870          871         0       3
871          872         1       1
872          873         0       1
873          874         0       3
874          875         1       2
875          876         1       3
876          877         0       3
877          878         0       3
878          879         0       3
879          880         1       1
880          881         1       2
881          882         0       3
882          883         0       3
883          884         0       2
884          885         0       3
885          886         0       3
886          887         0       2
887          888         1       1
888          889         0       3
889          890         1       1
890          891         0       3

                                                     Name     Sex   Age  SibSp  \
```

0	Braund, Mr. Owen Harris	male	22.0	1
1	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1
2	Heikkinen, Miss. Laina	female	26.0	0
3	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1
4	Allen, Mr. William Henry	male	35.0	0
5	Moran, Mr. James	male	NaN	0
6	McCarthy, Mr. Timothy J	male	54.0	0
7	Palsson, Master. Gosta Leonard	male	2.0	3
8	Johnson, Mrs. Oscar W (Elisabeth Vilhelmina Berg)	female	27.0	0
9	Nasser, Mrs. Nicholas (Adele Achem)	female	14.0	1
10	Sandstrom, Miss. Marguerite Rut	female	4.0	1
11	Bonnell, Miss. Elizabeth	female	58.0	0
12	Saundercock, Mr. William Henry	male	20.0	0
13	Andersson, Mr. Anders Johan	male	39.0	1
14	Vestrom, Miss. Hulda Amanda Adolfina	female	14.0	0
15	Hewlett, Mrs. (Mary D Kingcome)	female	55.0	0
16	Rice, Master. Eugene	male	2.0	4
17	Williams, Mr. Charles Eugene	male	NaN	0
18	Vander Planke, Mrs. Julius (Emelia Maria Vande...	female	31.0	1
19	Masselmani, Mrs. Fatima	female	NaN	0
20	Fynney, Mr. Joseph J	male	35.0	0
21	Beesley, Mr. Lawrence	male	34.0	0
22	McGowan, Miss. Anna "Annie"	female	15.0	0
23	Sloper, Mr. William Thompson	male	28.0	0
24	Palsson, Miss. Torborg Danira	female	8.0	3
25	Asplund, Mrs. Carl Oscar (Selma Augusta Emilia...	female	38.0	1
26	Emir, Mr. Farred Chehab	male	NaN	0
27	Fortune, Mr. Charles Alexander	male	19.0	3
28	O'Dwyer, Miss. Ellen "Nellie"	female	NaN	0
29	Todoroff, Mr. Lalio	male	NaN	0
..	...	...	...	...
861	Giles, Mr. Frederick Edward	male	21.0	1
862	Swift, Mrs. Frederick Joel (Margaret Welles Ba...	female	48.0	0
863	Sage, Miss. Dorothy Edith "Dolly"	female	NaN	8
864	Gill, Mr. John William	male	24.0	0
865	Bystrom, Mrs. (Karolina)	female	42.0	0
866	Duran y More, Miss. Asuncion	female	27.0	1
867	Roebling, Mr. Washington Augustus II	male	31.0	0
868	van Melkebeke, Mr. Philemon	male	NaN	0
869	Johnson, Master. Harold Theodor	male	4.0	1
870	Balkic, Mr. Cerin	male	26.0	0
871	Beckwith, Mrs. Richard Leonard (Sallie Monypeny)	female	47.0	1
872	Carlsson, Mr. Frans Olof	male	33.0	0
873	Vander Cruyssen, Mr. Victor	male	47.0	0
874	Abelson, Mrs. Samuel (Hannah Wizosky)	female	28.0	1
875	Najib, Miss. Adele Kiamie "Jane"	female	15.0	0
876	Gustafsson, Mr. Alfred Ossian	male	20.0	0
877	Petroff, Mr. Nedelio	male	19.0	0

878			Laleff, Mr. Kristo	male	NaN	0		
879		Potter, Mrs. Thomas Jr (Lily Alexenia Wilson)		female	56.0	0		
880		Shelley, Mrs. William (Imanita Parrish Hall)		female	25.0	0		
881			Markun, Mr. Johann	male	33.0	0		
882			Dahlberg, Miss. Gerda Ulrika	female	22.0	0		
883			Banfield, Mr. Frederick James	male	28.0	0		
884			Sutehall, Mr. Henry Jr	male	25.0	0		
885		Rice, Mrs. William (Margaret Norton)		female	39.0	0		
886			Montvila, Rev. Juozas	male	27.0	0		
887			Graham, Miss. Margaret Edith	female	19.0	0		
888		Johnston, Miss. Catherine Helen "Carrie"		female	NaN	1		
889			Behr, Mr. Karl Howell	male	26.0	0		
890			Dooley, Mr. Patrick	male	32.0	0		

	Parch	Ticket	Fare	Cabin	Embarked	count	person	\
0	0	A/5 21171	7.2500	NaN	S	1	male	
1	0	PC 17599	71.2833	C85	C	2	female	
2	0	STON/O2. 3101282	7.9250	NaN	S	3	female	
3	0	113803	53.1000	C123	S	4	female	
4	0	373450	8.0500	NaN	S	5	male	
5	0	330877	8.4583	NaN	Q	6	male	
6	0	17463	51.8625	E46	S	7	male	
7	1	349909	21.0750	NaN	S	8	child	
8	2	347742	11.1333	NaN	S	9	female	
9	0	237736	30.0708	NaN	C	10	child	
10	1	PP 9549	16.7000	G6	S	11	child	
11	0	113783	26.5500	C103	S	12	female	
12	0	A/5. 2151	8.0500	NaN	S	13	male	
13	5	347082	31.2750	NaN	S	14	male	
14	0	350406	7.8542	NaN	S	15	child	
15	0	248706	16.0000	NaN	S	16	female	
16	1	382652	29.1250	NaN	Q	17	child	
17	0	244373	13.0000	NaN	S	18	male	
18	0	345763	18.0000	NaN	S	19	female	
19	0	2649	7.2250	NaN	C	20	female	
20	0	239865	26.0000	NaN	S	21	male	
21	0	248698	13.0000	D56	S	22	male	
22	0	330923	8.0292	NaN	Q	23	child	
23	0	113788	35.5000	A6	S	24	male	
24	1	349909	21.0750	NaN	S	25	child	
25	5	347077	31.3875	NaN	S	26	female	
26	0	2631	7.2250	NaN	C	27	male	
27	2	19950	263.0000	C23 C25 C27	S	28	male	
28	0	330959	7.8792	NaN	Q	29	female	
29	0	349216	7.8958	NaN	S	30	male	
..	...	...	...	...	...	...	...	
861	0	28134	11.5000	NaN	S	862	male	
862	0	17466	25.9292	D17	S	863	female	

863	2	CA. 2343	69.5500	NaN	S	864	female
864	0	233866	13.0000	NaN	S	865	male
865	0	236852	13.0000	NaN	S	866	female
866	0	SC/PARIS 2149	13.8583	NaN	C	867	female
867	0	PC 17590	50.4958	A24	S	868	male
868	0	345777	9.5000	NaN	S	869	male
869	1	347742	11.1333	NaN	S	870	child
870	0	349248	7.8958	NaN	S	871	male
871	1	11751	52.5542	D35	S	872	female
872	0	695	5.0000	B51 B53 B55	S	873	male
873	0	345765	9.0000	NaN	S	874	male
874	0	P/PP 3381	24.0000	NaN	C	875	female
875	0	2667	7.2250	NaN	C	876	child
876	0	7534	9.8458	NaN	S	877	male
877	0	349212	7.8958	NaN	S	878	male
878	0	349217	7.8958	NaN	S	879	male
879	1	11767	83.1583	C50	C	880	female
880	1	230433	26.0000	NaN	S	881	female
881	0	349257	7.8958	NaN	S	882	male
882	0	7552	10.5167	NaN	S	883	female
883	0	C.A./SOTON 34068	10.5000	NaN	S	884	male
884	0	SOTON/OQ 392076	7.0500	NaN	S	885	male
885	5	382652	29.1250	NaN	Q	886	female
886	0	211536	13.0000	NaN	S	887	male
887	0	112053	30.0000	B42	S	888	female
888	2	W./C. 6607	23.4500	NaN	S	889	female
889	0	111369	30.0000	C148	C	890	male
890	0	370376	7.7500	NaN	Q	891	male

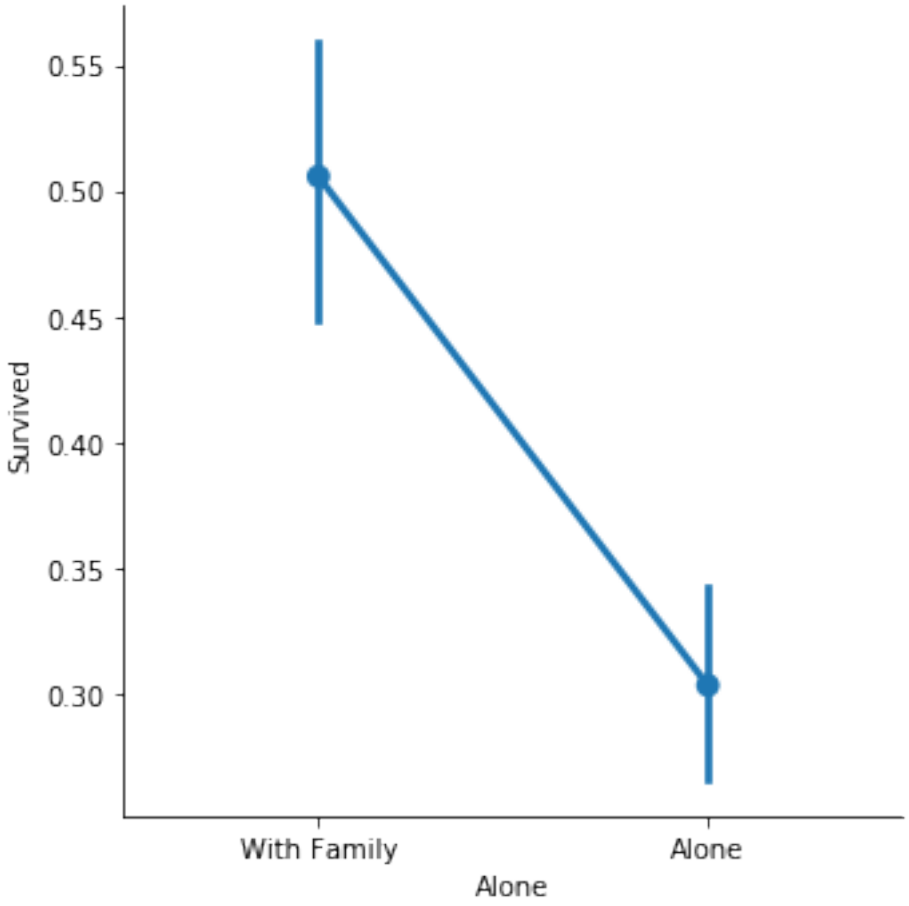
	Alone	Survivor
0	With Family	no
1	With Family	yes
2	Alone	yes
3	With Family	yes
4	Alone	no
5	Alone	no
6	Alone	no
7	With Family	no
8	With Family	yes
9	With Family	yes
10	With Family	yes
11	Alone	yes
12	Alone	no
13	With Family	no
14	Alone	no
15	Alone	yes
16	With Family	no
17	Alone	yes

```
18   With Family       no
19         Alone      yes
20         Alone       no
21         Alone      yes
22         Alone      yes
23         Alone      yes
24   With Family       no
25   With Family      yes
26         Alone       no
27   With Family       no
28         Alone      yes
29         Alone       no
..           ...      ...
861  With Family       no
862        Alone      yes
863  With Family       no
864        Alone       no
865        Alone      yes
866  With Family      yes
867        Alone       no
868        Alone       no
869  With Family      yes
870        Alone       no
871  With Family      yes
872        Alone       no
873        Alone       no
874  With Family      yes
875        Alone      yes
876        Alone       no
877        Alone       no
878        Alone       no
879  With Family      yes
880  With Family      yes
881        Alone       no
882        Alone       no
883        Alone       no
884        Alone       no
885  With Family       no
886        Alone       no
887        Alone      yes
888  With Family       no
889        Alone      yes
890        Alone       no

[891 rows x 16 columns]
```

```
In [51]: sns.catplot(x='Alone',y='Survived',kind='point',data=titanic_df)
```

```
Out[51]: <seaborn.axisgrid.FacetGrid at 0x7f9d43c00dd0>
```

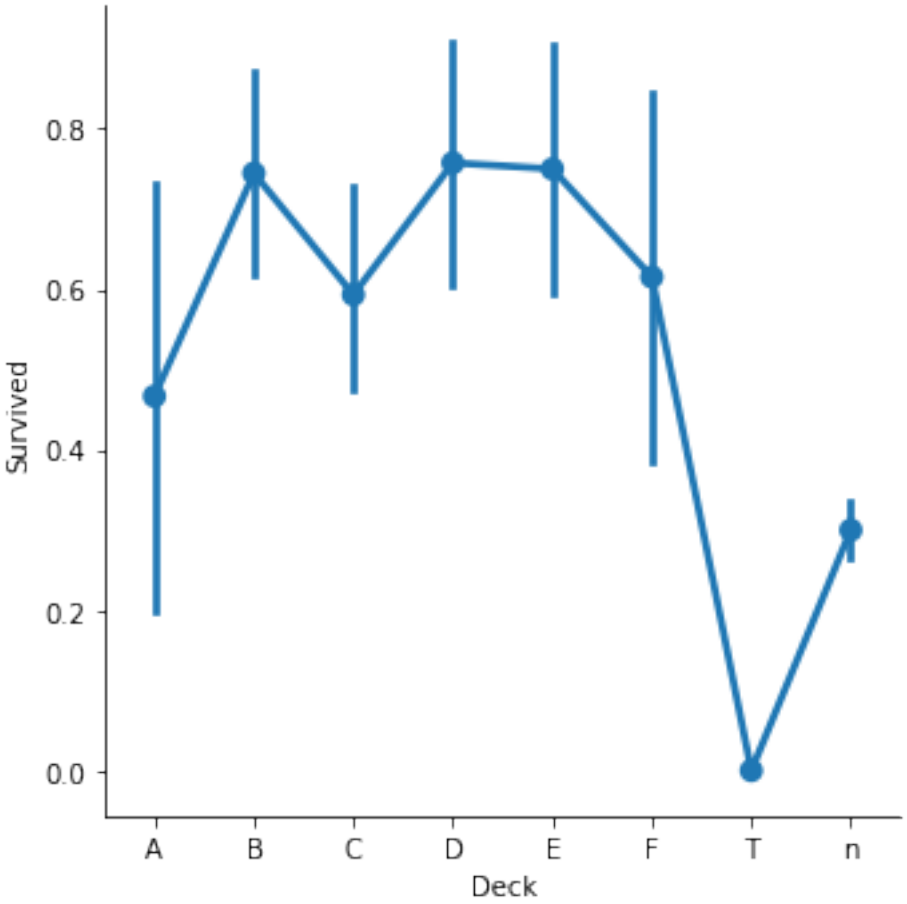



```
In [46]: def dec(cabin):
             cab=cabin
             for c in cab:
                 c=str(c)
                 if c=='NaN':
                     return 0
                 else:
                     return c[0]

In [47]: titanic_df['Deck']=titanic_df[['Cabin']].apply(dec,axis=1)

In [48]: sns.catplot('Deck','Survived',kind='point',order=['A','B','C','D','E','F','T','n'],dat

Out[48]: <seaborn.axisgrid.FacetGrid at 0x7f9d43d5d8d0>
```




```
In [49]: titanic_df
```

Out[49]:

	PassengerId	Survived	Pclass	\
0	1	0	3	
1	2	1	1	
2	3	1	3	
3	4	1	1	
4	5	0	3	
5	6	0	3	
6	7	0	1	
7	8	0	3	
8	9	1	3	
9	10	1	2	
10	11	1	3	
11	12	1	1	
12	13	0	3	
13	14	0	3	
14	15	0	3	

```
15            16          1       2
16            17          0       3
17            18          1       2
18            19          0       3
19            20          1       3
20            21          0       2
21            22          1       2
22            23          1       3
23            24          1       1
24            25          0       3
25            26          1       3
26            27          0       3
27            28          0       1
28            29          1       3
29            30          0       3
..           ...        ...     ...
861          862          0       2
862          863          1       1
863          864          0       3
864          865          0       2
865          866          1       2
866          867          1       2
867          868          0       1
868          869          0       3
869          870          1       3
870          871          0       3
871          872          1       1
872          873          0       1
873          874          0       3
874          875          1       2
875          876          1       3
876          877          0       3
877          878          0       3
878          879          0       3
879          880          1       1
880          881          1       2
881          882          0       3
882          883          0       3
883          884          0       2
884          885          0       3
885          886          0       3
886          887          0       2
887          888          1       1
888          889          0       3
889          890          1       1
890          891          0       3

                                                 Name     Sex   Age  SibSp  \
```

0	Braund, Mr. Owen Harris	male	22.0	1
1	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1
2	Heikkinen, Miss. Laina	female	26.0	0
3	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1
4	Allen, Mr. William Henry	male	35.0	0
5	Moran, Mr. James	male	NaN	0
6	McCarthy, Mr. Timothy J	male	54.0	0
7	Palsson, Master. Gosta Leonard	male	2.0	3
8	Johnson, Mrs. Oscar W (Elisabeth Vilhelmina Berg)	female	27.0	0
9	Nasser, Mrs. Nicholas (Adele Achem)	female	14.0	1
10	Sandstrom, Miss. Marguerite Rut	female	4.0	1
11	Bonnell, Miss. Elizabeth	female	58.0	0
12	Saundercock, Mr. William Henry	male	20.0	0
13	Andersson, Mr. Anders Johan	male	39.0	1
14	Vestrom, Miss. Hulda Amanda Adolfina	female	14.0	0
15	Hewlett, Mrs. (Mary D Kingcome)	female	55.0	0
16	Rice, Master. Eugene	male	2.0	4
17	Williams, Mr. Charles Eugene	male	NaN	0
18	Vander Planke, Mrs. Julius (Emelia Maria Vande...	female	31.0	1
19	Masselmani, Mrs. Fatima	female	NaN	0
20	Fynney, Mr. Joseph J	male	35.0	0
21	Beesley, Mr. Lawrence	male	34.0	0
22	McGowan, Miss. Anna "Annie"	female	15.0	0
23	Sloper, Mr. William Thompson	male	28.0	0
24	Palsson, Miss. Torborg Danira	female	8.0	3
25	Asplund, Mrs. Carl Oscar (Selma Augusta Emilia...	female	38.0	1
26	Emir, Mr. Farred Chehab	male	NaN	0
27	Fortune, Mr. Charles Alexander	male	19.0	3
28	O'Dwyer, Miss. Ellen "Nellie"	female	NaN	0
29	Todoroff, Mr. Lalio	male	NaN	0
..	...	...	...	...
861	Giles, Mr. Frederick Edward	male	21.0	1
862	Swift, Mrs. Frederick Joel (Margaret Welles Ba...	female	48.0	0
863	Sage, Miss. Dorothy Edith "Dolly"	female	NaN	8
864	Gill, Mr. John William	male	24.0	0
865	Bystrom, Mrs. (Karolina)	female	42.0	0
866	Duran y More, Miss. Asuncion	female	27.0	1
867	Roebling, Mr. Washington Augustus II	male	31.0	0
868	van Melkebeke, Mr. Philemon	male	NaN	0
869	Johnson, Master. Harold Theodor	male	4.0	1
870	Balkic, Mr. Cerin	male	26.0	0
871	Beckwith, Mrs. Richard Leonard (Sallie Monypeny)	female	47.0	1
872	Carlsson, Mr. Frans Olof	male	33.0	0
873	Vander Cruyssen, Mr. Victor	male	47.0	0
874	Abelson, Mrs. Samuel (Hannah Wizosky)	female	28.0	1
875	Najib, Miss. Adele Kiamie "Jane"	female	15.0	0
876	Gustafsson, Mr. Alfred Ossian	male	20.0	0
877	Petroff, Mr. Nedelio	male	19.0	0

878			Laleff, Mr. Kristo	male	NaN	0		
879			Potter, Mrs. Thomas Jr (Lily Alexenia Wilson)	female	56.0	0		
880			Shelley, Mrs. William (Imanita Parrish Hall)	female	25.0	0		
881			Markun, Mr. Johann	male	33.0	0		
882			Dahlberg, Miss. Gerda Ulrika	female	22.0	0		
883			Banfield, Mr. Frederick James	male	28.0	0		
884			Sutehall, Mr. Henry Jr	male	25.0	0		
885			Rice, Mrs. William (Margaret Norton)	female	39.0	0		
886			Montvila, Rev. Juozas	male	27.0	0		
887			Graham, Miss. Margaret Edith	female	19.0	0		
888			Johnston, Miss. Catherine Helen "Carrie"	female	NaN	1		
889			Behr, Mr. Karl Howell	male	26.0	0		
890			Dooley, Mr. Patrick	male	32.0	0		

	Parch	Ticket	Fare	Cabin	Embarked	count	person	\
0	0	A/5 21171	7.2500	NaN	S	1	male	
1	0	PC 17599	71.2833	C85	C	2	female	
2	0	STON/O2. 3101282	7.9250	NaN	S	3	female	
3	0	113803	53.1000	C123	S	4	female	
4	0	373450	8.0500	NaN	S	5	male	
5	0	330877	8.4583	NaN	Q	6	male	
6	0	17463	51.8625	E46	S	7	male	
7	1	349909	21.0750	NaN	S	8	child	
8	2	347742	11.1333	NaN	S	9	female	
9	0	237736	30.0708	NaN	C	10	child	
10	1	PP 9549	16.7000	G6	S	11	child	
11	0	113783	26.5500	C103	S	12	female	
12	0	A/5. 2151	8.0500	NaN	S	13	male	
13	5	347082	31.2750	NaN	S	14	male	
14	0	350406	7.8542	NaN	S	15	child	
15	0	248706	16.0000	NaN	S	16	female	
16	1	382652	29.1250	NaN	Q	17	child	
17	0	244373	13.0000	NaN	S	18	male	
18	0	345763	18.0000	NaN	S	19	female	
19	0	2649	7.2250	NaN	C	20	female	
20	0	239865	26.0000	NaN	S	21	male	
21	0	248698	13.0000	D56	S	22	male	
22	0	330923	8.0292	NaN	Q	23	child	
23	0	113788	35.5000	A6	S	24	male	
24	1	349909	21.0750	NaN	S	25	child	
25	5	347077	31.3875	NaN	S	26	female	
26	0	2631	7.2250	NaN	C	27	male	
27	2	19950	263.0000	C23 C25 C27	S	28	male	
28	0	330959	7.8792	NaN	Q	29	female	
29	0	349216	7.8958	NaN	S	30	male	
..	...	...	...	...	...	...	...	
861	0	28134	11.5000	NaN	S	862	male	
862	0	17466	25.9292	D17	S	863	female	

863	2	CA. 2343	69.5500	NaN	S	864	female
864	0	233866	13.0000	NaN	S	865	male
865	0	236852	13.0000	NaN	S	866	female
866	0	SC/PARIS 2149	13.8583	NaN	C	867	female
867	0	PC 17590	50.4958	A24	S	868	male
868	0	345777	9.5000	NaN	S	869	male
869	1	347742	11.1333	NaN	S	870	child
870	0	349248	7.8958	NaN	S	871	male
871	1	11751	52.5542	D35	S	872	female
872	0	695	5.0000	B51 B53 B55	S	873	male
873	0	345765	9.0000	NaN	S	874	male
874	0	P/PP 3381	24.0000	NaN	C	875	female
875	0	2667	7.2250	NaN	C	876	child
876	0	7534	9.8458	NaN	S	877	male
877	0	349212	7.8958	NaN	S	878	male
878	0	349217	7.8958	NaN	S	879	male
879	1	11767	83.1583	C50	C	880	female
880	1	230433	26.0000	NaN	S	881	female
881	0	349257	7.8958	NaN	S	882	male
882	0	7552	10.5167	NaN	S	883	female
883	0	C.A./SOTON 34068	10.5000	NaN	S	884	male
884	0	SOTON/OQ 392076	7.0500	NaN	S	885	male
885	5	382652	29.1250	NaN	Q	886	female
886	0	211536	13.0000	NaN	S	887	male
887	0	112053	30.0000	B42	S	888	female
888	2	W./C. 6607	23.4500	NaN	S	889	female
889	0	111369	30.0000	C148	C	890	male
890	0	370376	7.7500	NaN	Q	891	male

	Alone	Survivor	Deck
0	With Family	no	n
1	With Family	yes	C
2	Alone	yes	n
3	With Family	yes	C
4	Alone	no	n
5	Alone	no	n
6	Alone	no	E
7	With Family	no	n
8	With Family	yes	n
9	With Family	yes	n
10	With Family	yes	G
11	Alone	yes	C
12	Alone	no	n
13	With Family	no	n
14	Alone	no	n
15	Alone	yes	n
16	With Family	no	n
17	Alone	yes	n

```
18   With Family       no    n
19         Alone      yes    n
20         Alone       no    n
21         Alone      yes    D
22         Alone      yes    n
23         Alone      yes    A
24   With Family       no    n
25   With Family      yes    n
26         Alone       no    n
27   With Family       no    C
28         Alone      yes    n
29         Alone       no    n
..           ...      ...  ...
861  With Family       no    n
862        Alone      yes    D
863  With Family       no    n
864        Alone       no    n
865        Alone      yes    n
866  With Family      yes    n
867        Alone       no    A
868        Alone       no    n
869  With Family      yes    n
870        Alone       no    n
871  With Family      yes    D
872        Alone       no    B
873        Alone       no    n
874  With Family      yes    n
875        Alone      yes    n
876        Alone       no    n
877        Alone       no    n
878        Alone       no    n
879  With Family      yes    C
880  With Family      yes    n
881        Alone       no    n
882        Alone       no    n
883        Alone       no    n
884        Alone       no    n
885  With Family       no    n
886        Alone       no    n
887        Alone      yes    B
888  With Family       no    n
889        Alone      yes    C
890        Alone       no    n

[891 rows x 17 columns]
```