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https://github.com/chertify/titanic-001-eda/blob/ae3f03b19a9ea284f4f81845694b0b0c3fa824f8

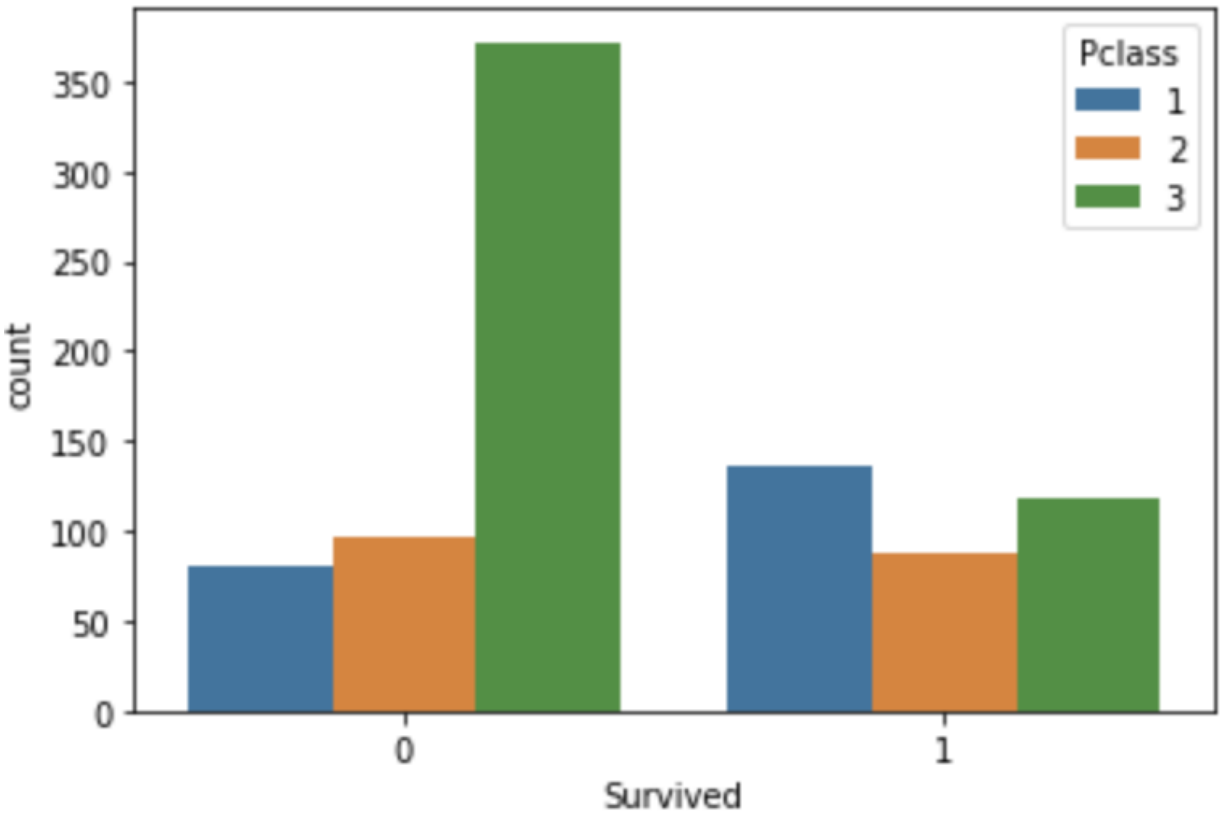
SURVIVAL RATE ON RMS TITANIC

This is a light exploratory data analysis on the survival rate of passengers of Titanic based on their Class, Fare, Age and Gender.

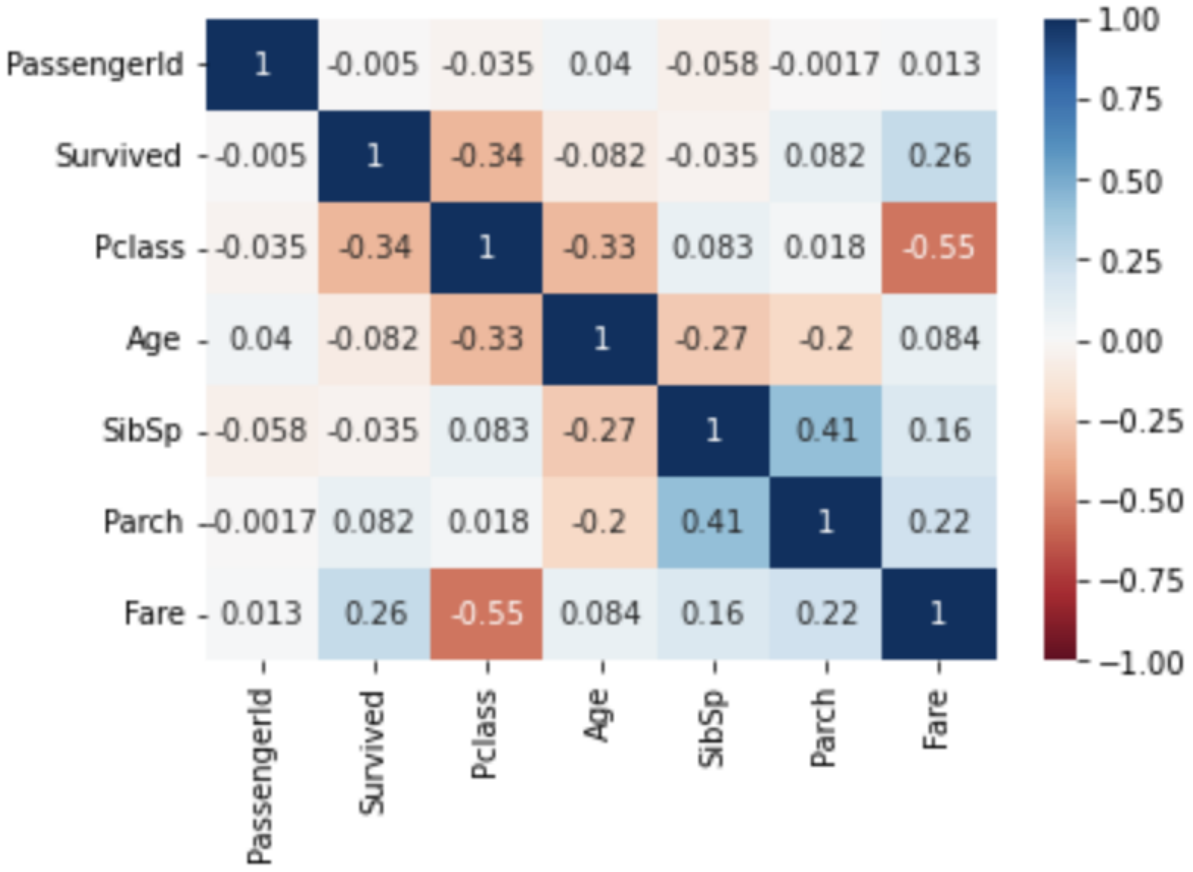
Missing values on Age variable were fixed by getting the mean of each possible age range they could have possibly belong to. Conditions on the assignment of the mean could have been improved, but since this is only a light data analysis, we will not get deeper into that. Below are 4 hypothesis that proves or disproves them.

I. **Is the survival rate influenced by the type of Passenger Class?**
Yes. The survival rate is correlated with the type of Passenger Class. The lower your type of Passenger Class is, the higher your rate of survival.

Passenger Classes are Class 1, Class 2, Class 3. The rich, famous, and influential all belong to Class 1. The average belongs to Class 2, while the financially challenged belongs to Class 3.



- One (1) represents those who survived. There are more Class 1 who survived.
- Zero (0) represents those who did not survive. The least survival rate belongs to Class 3



- Heatmap for all numerical variables
- Survival and Pclass are negatively correlated with one another (-0.34). The lower the number of your class (the richer you are), the higher your survival rate (0 lowest, 1 highest) is.
- Survival and Fare are positively correlated with one another (0.26). The higher the fare is paid, the greater chances of surviving.
- These 3 variables agree with one another. Fare refers to financial capability to pay such ticket. So the higher your ability is to pay, the higher your rate of survival is (positively correlated). On the other hand Pclass refers to financial status. The lower the number

of your class type is, the more financially capable you are. Having said such, the higher your Passenger class is, the lower your survival rate is (negatively correlated).

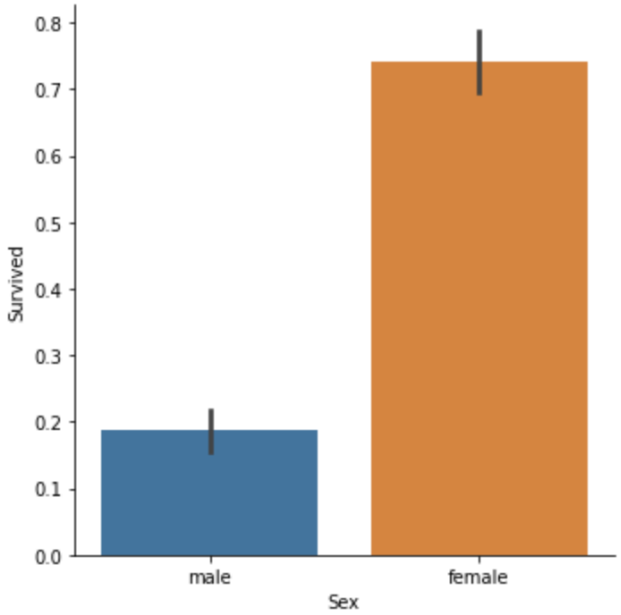
- P-value for both cases is 0. Therefore, there is a less likelihood that this has happened by chance. We reject the null hypothesis, and accept the alternative hypothesis that these variables are associated with one another.

II. Is the survival rate influenced by Sex?

Yes, survival rate is influenced by passenger's gender.

There are 233 female survivors out of 342 who made it. There were only 109 males who survived.

Sex	Age	Fare	Survived
female	28.000000	44.479818	233
male	30.820052	25.523893	109

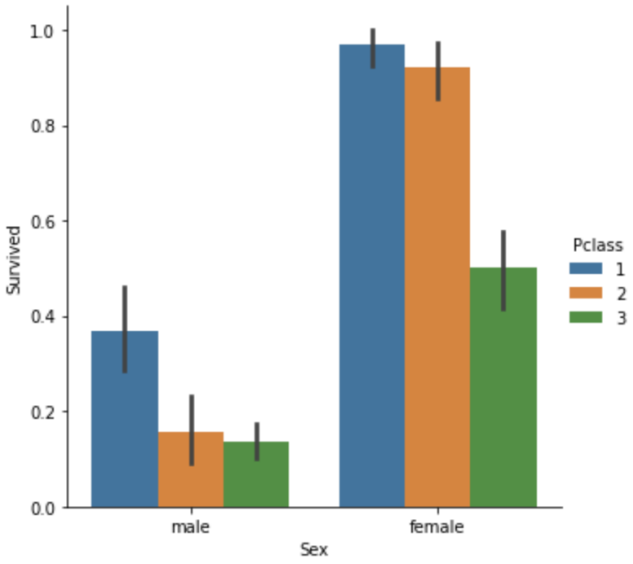


The pivot table on the left shows the mean value of age for each gender who survived. Moreover, it shows the mean value for each fare paid by each sex.

The catplot on the right shows compares the survival rate for each gender. There are more female passengers who survived when Titanic sank.

III. Is there a higher survival rate for female passengers from Class 1?

Yes. There are more female passenger survivors than the male counterpart, and these females mostly belong to Passenger type Class 1.



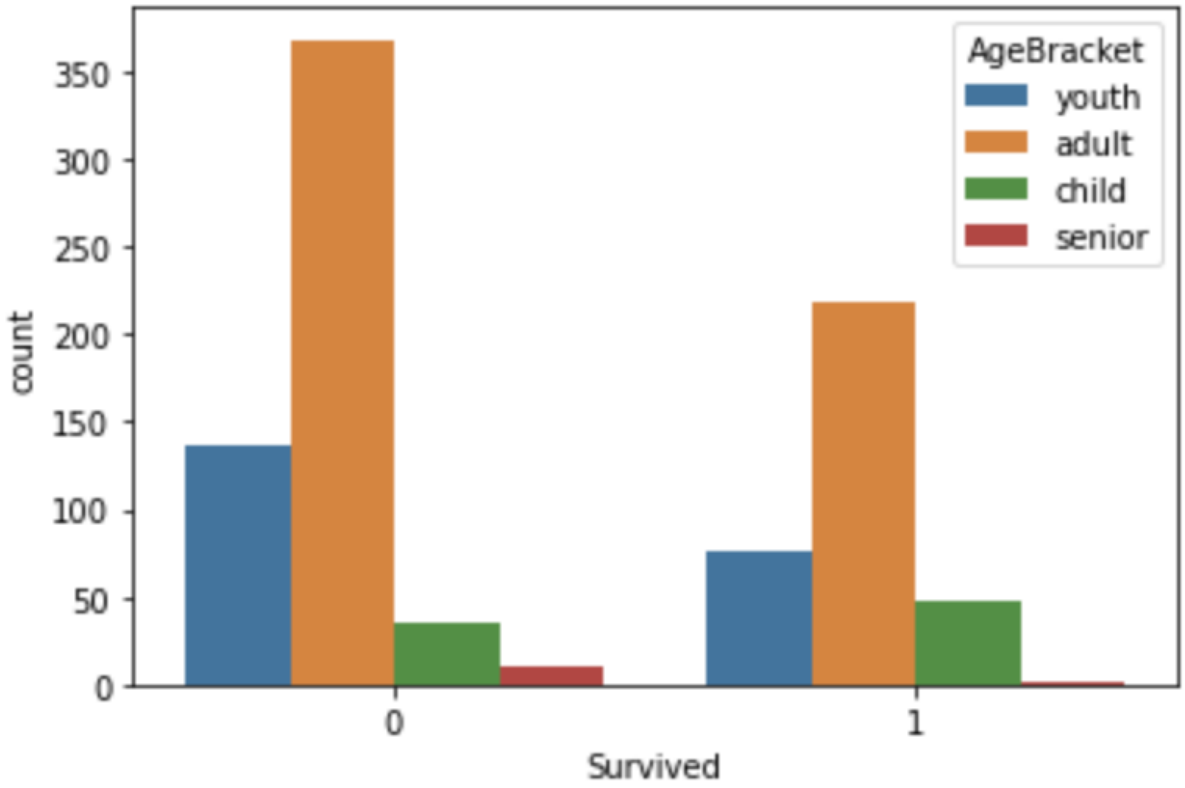
>> Shows survival rate is higher in females than in males.

>> Shows that Class 1 has the most number of survival for both male and female, followed by class 2.

>>The least survivors are males who belong to Class 3; This is similar with females who belong to Class 3

IV. Do children have higher survival rate than senior citizens?

Yes, children have higher survival rate as shown on the countplot below. Senior passengers have lesser survival rate when these two group of countplots are compared to each other.


AgeBracket
youth
adult
child
senior
count
350
300
250
200
150
100
50
0
0
1
Survived