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## Assignment 3 – Part 2

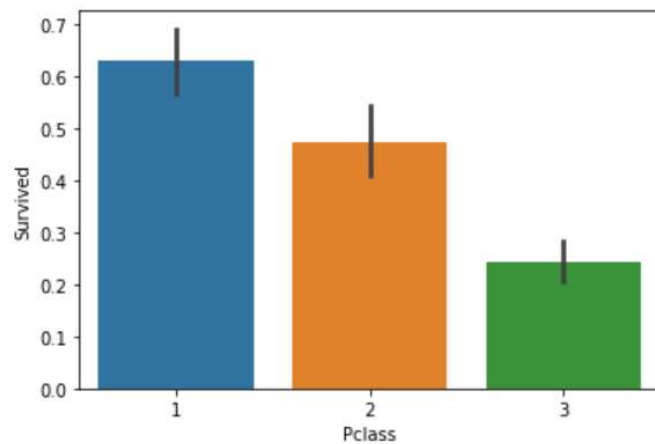
In this report, I will show the three hypotheses, and analyze if each one of them is true or not:

1. The survival rate is associated with the class of passenger
2. The survival rate is associated with the gender
3. The survival rate is associated with the age

### Summary Statistics:

1. The survival rate is associated with the class of passenger

	Pclass	Survived
0	1	0.629630
1	2	0.472826
2	3	0.242363



Percentage of Pclass = 1 who survived: 62.96

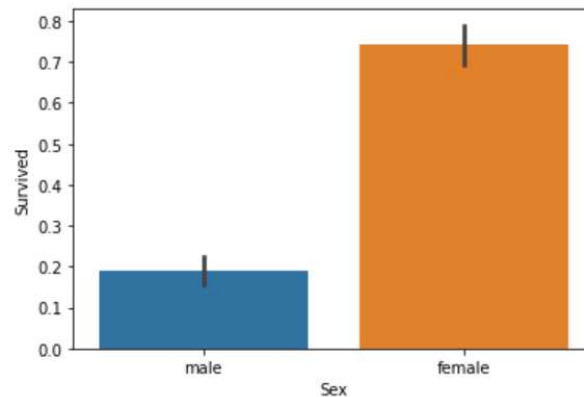
Percentage of Pclass = 2 who survived: 47.28

Percentage of Pclass = 3 who survived: 24.23

We can affirm **“Pclass”** has correlation with **“Survived”** variable, as people with higher socioeconomic class has a higher number of survivals.

2. The survival rate is associated with the gender

	Sex	Survived
0	female	0.742038
1	male	0.188908



Percentage of females who survived: 74.20

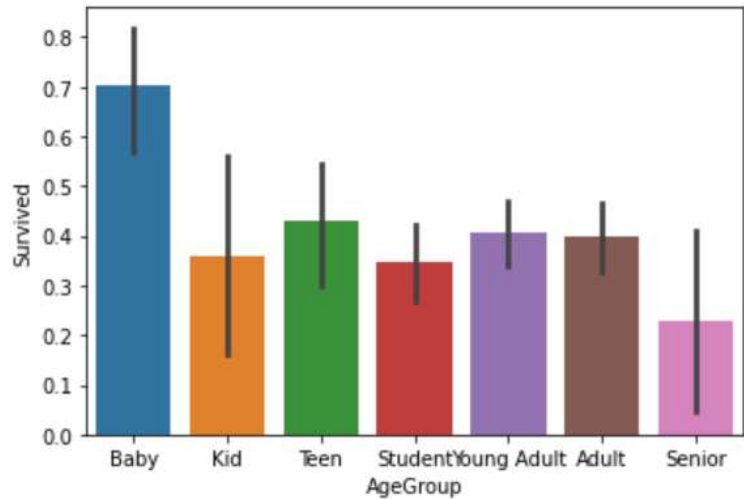
Percentage of males who survived: 18.89

We can affirm **“Sex”** has a correlation with the **“Survived”** variable, as females has a higher number of survivals than males.

3. The survival rate is associated with the age

Firstly, I needed to transform the **“Age”** in a categorical variable. I separated in bins bins = [0, 5, 12, 18, 24, 35, 60] and classified with the labels = ['Baby', 'Kid', 'Teen', 'Student', 'Young Adult', 'Adult', 'Senior']

	AgeGroup	Survived
0	Baby	0.704545
2	Teen	0.428571
4	Young Adult	0.404545
5	Adult	0.400000
1	Kid	0.360000
3	Student	0.347826
6	Senior	0.227273



Percentage of babies who survived: 70.45

Percentage of Kids who survived: 36.0

Percentage of Teens who survived: 42.86

Percentage of Students who survived: 34.78

Percentage of Young Adults who survived: 40.45

Percentage of Adults who survived: 40.0

Percentage of Senior who survived: 22.72

We can conclude that “Babies” are the group that mostly survived. But we can’t affirm the “Age” is correlated with “Survived” variable.

Github Repo: <https://github.com/karinamyagi/Titanic.git>