AYUSH MISHRA(amm428@pitt.edu)   `Data Analytics Assignment 3`
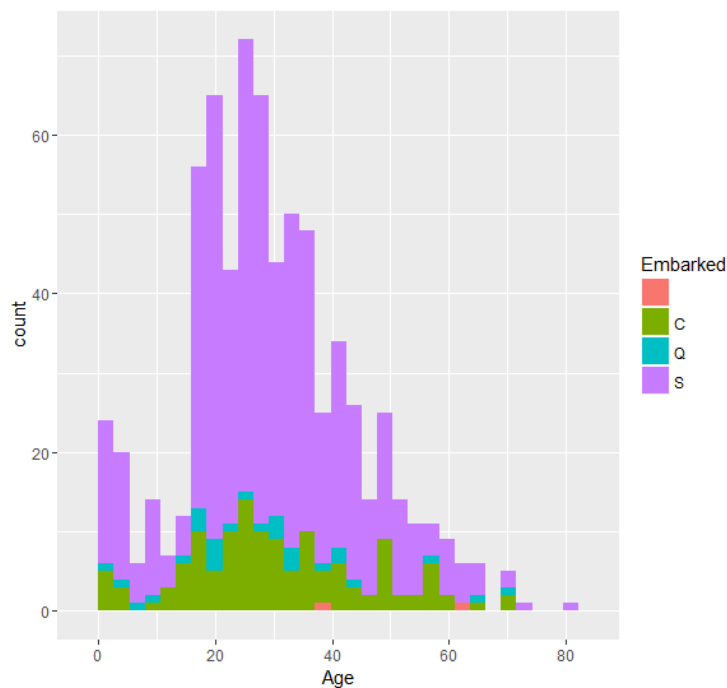
An exploration into the demography of the Titanic data showed that almost 60% of all people who set sail on the largest ship in the world on April 10th, 1912 were males:
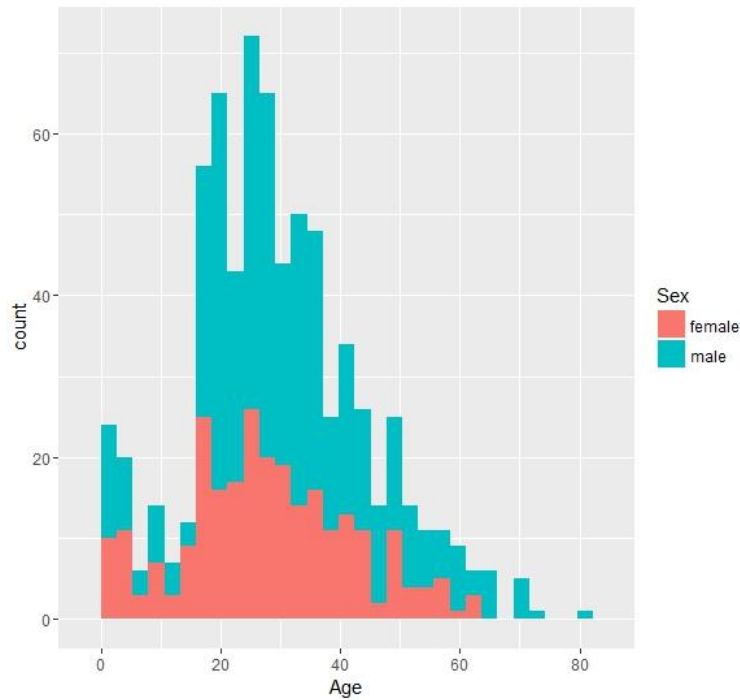
The most popular port of embarkation was Southampton, the United Kingdom before sailing to Cherbourg, France and Queenstown, Northern Ireland:
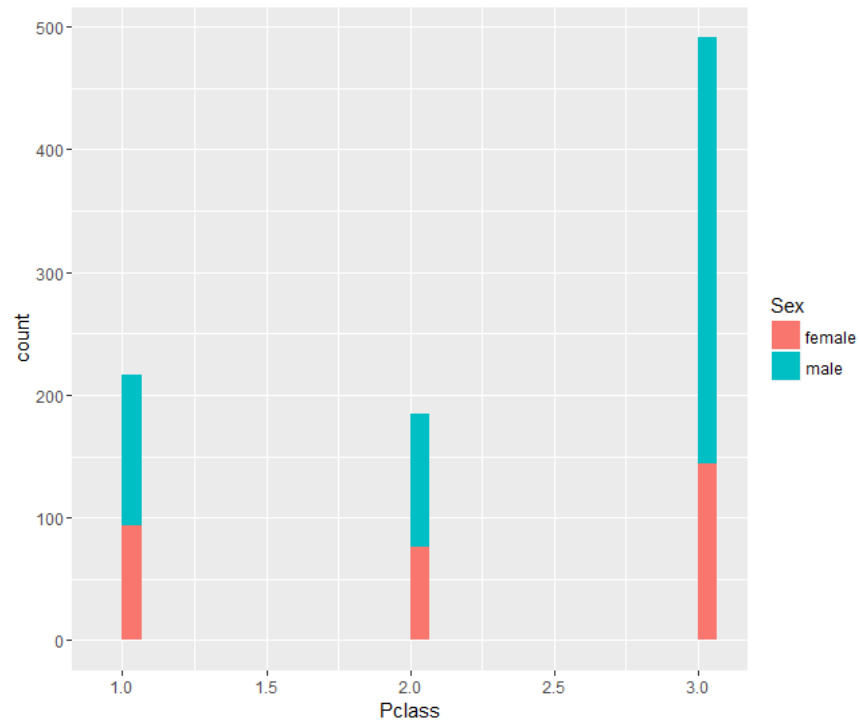
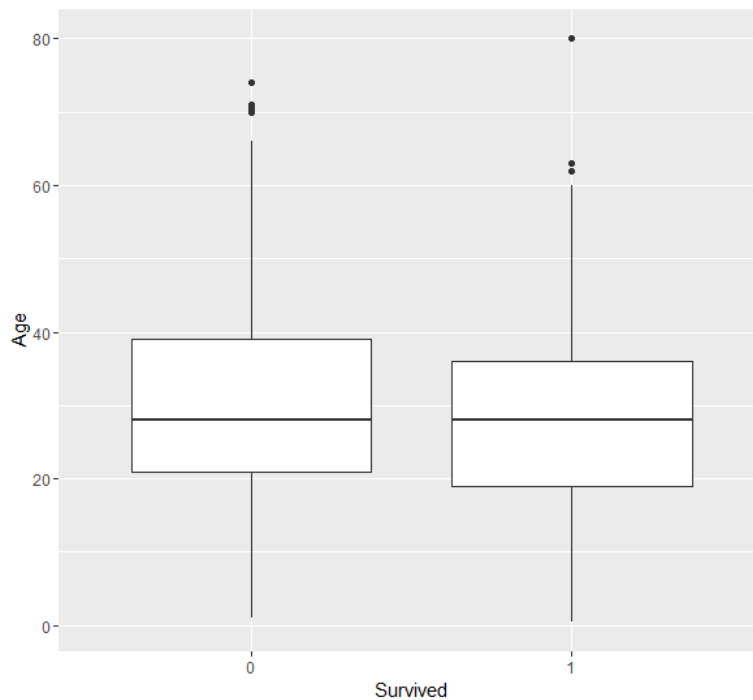Most of the travelling passengers (55.11%) belonged to the 3rd class

An important distinction that could be made between those who survived and those who couldn't make it was that their "Median" Age were almost the same but the distribution was Right-skewed for those who survived and Left-skewed for those who didn't (meaning, more people above Median age could not survive the disaster and most of the them that did survive belonged to the younger populace):

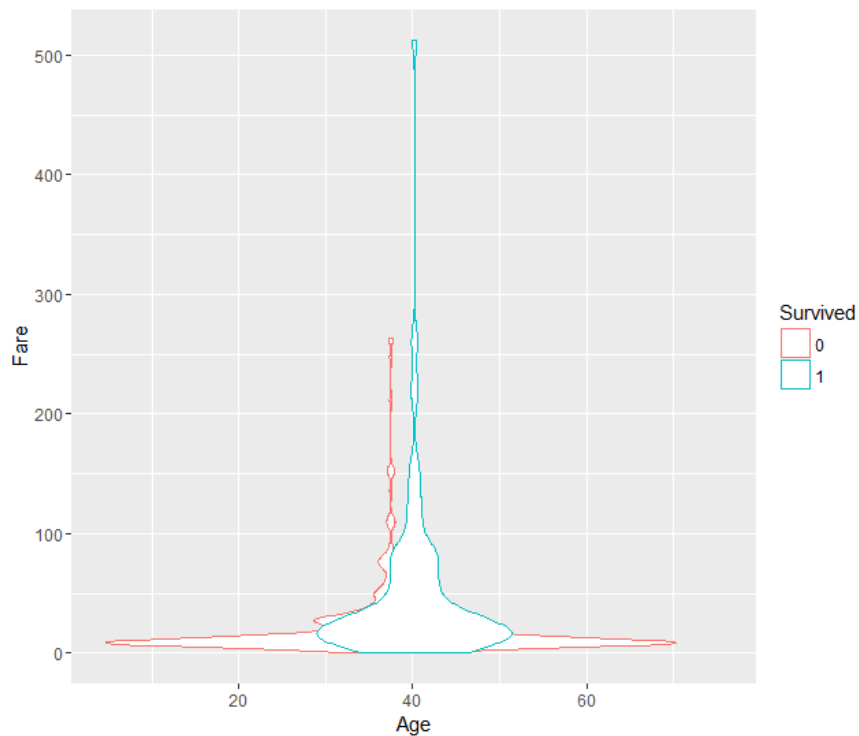The best survival ratio was for females who embarked from Cherbourg, France with almost all belonging to Class 1 and 2 making it out and a very few, who belonged to class 3, not surviving. Amongst Males, the best Survival ratio came out for those who boarded from Southampton with almost equal survival chances for all 3 classes. The worst survival rate was for people who boarded from Queenstown, with almost none of them being able to make it out alive:
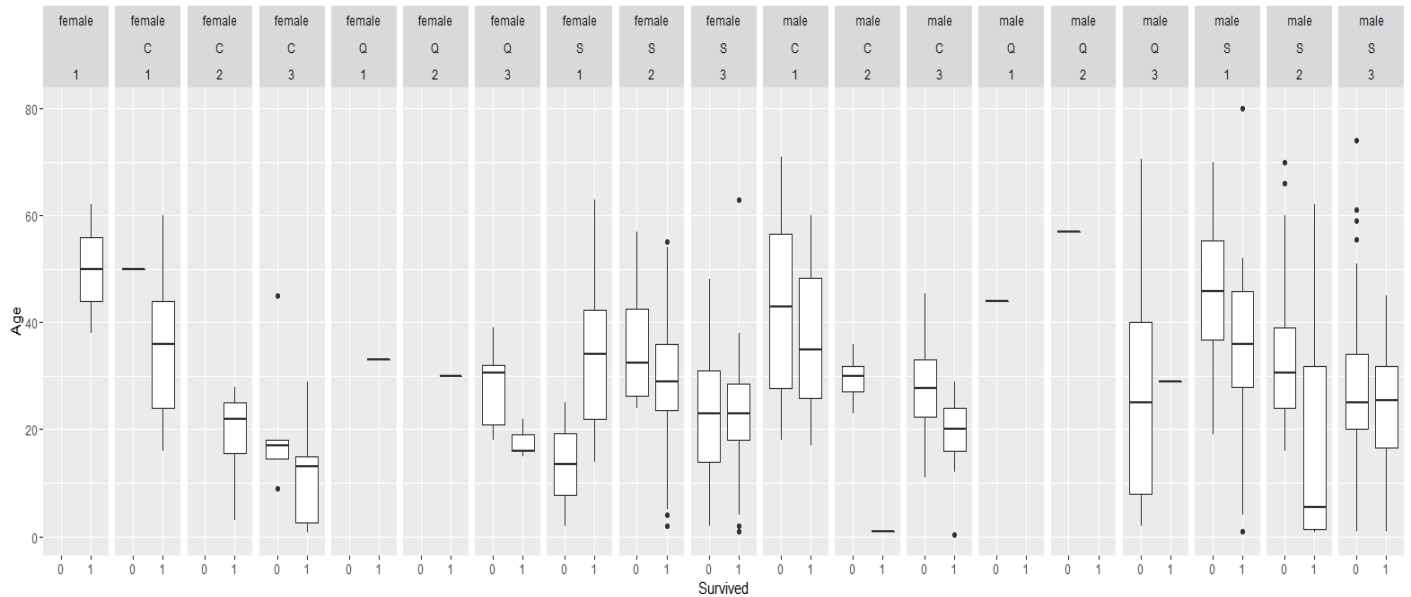
Another interesting observation was the relationship between Passenger Age ~ Ticket Fare. It was seen that Passengers with higher ticket fare and younger age tended to survive more as seen in the following Violin Plot:

Incidentally, most people from Cherbourg had the highest fares who survived thus establishing further the correlation that higher the fare, better was the chance of survival in the Titanic:
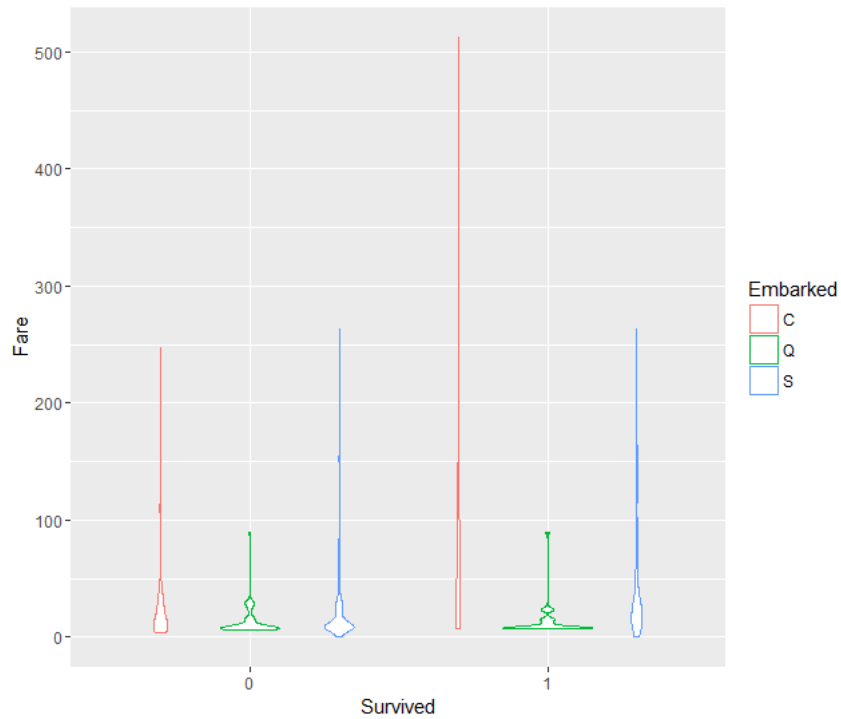
As seen here in the final plot, as a confirmation of our observations, the best survival rate was found to be with passengers belonging to the first class:
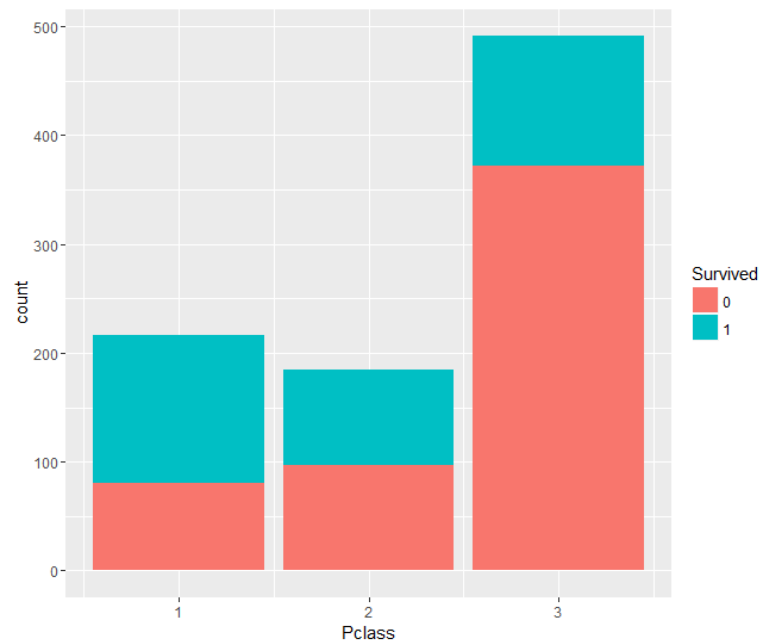
It was a sad end to what was hailed as the world's largest ship-liner of its time, the Floating City, a city in itself that cannot sink. The data shows that the younger population, especially females and children were the ones who made out of the disaster. Some of the data also indicates that a higher class had better survival chances. Most of the people who gave up their lives were older men who gave up their place for the young, probably one of the greatest acts of selflessness mankind has ever seen.

DESCRIPTIVE STATISCTICS:

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PassengerId      Survived       Pclass            Name                  Sex
Min.   :  1.0    0:549     Min.   :1.000    Length:891          Length:891
1st Qu.:223.5    1:342     1st Qu.:2.000    Class :character    Class :character
Median :446.0              Median :3.000    Mode  :character    Mode  :character
Mean   :446.0              Mean   :2.309
3rd Qu.:668.5              3rd Qu.:3.000
Max.   :891.0              Max.   :3.000


     Age             SibSp           Parch            Ticket              Fare
Min.   : 0.42    Min.   :0.000   Min.   :0.0000   Length:891          Min:0.00
1st Qu.:20.12    1st Qu.:0.000   1st Qu.:0.0000   Class :character    Q1: 7.91
Median :28.00    Median :0.000   Median :0.0000   Mode  :character    Md:14.45
Mean   :29.70    Mean   :0.523   Mean   :0.3816                       Mn:32.20
3rd Qu.:38.00    3rd Qu.:1.000   3rd Qu.:0.0000                       Q3:31.00
Max.   :80.00    Max.   :8.000   Max.   :6.0000                       Mx:512.3
NA's   :177
   Cabin            Embarked
Length:891       Length:891
Class :character Class :character
Mode  :character Mode  :character
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