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BS-DS
Semester 6

Lab Submission 08

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1. **Look into the charts of the Simple Distribution model which is the output of Naive Bayes. Select the different attributes and inspect the charts. Why do some of them show bars and some show lines?**

The discrete qualitative attributes (Passenger Class, Sex) are presented by bar charts while the continuous quantitative attributes (all attributes except Sex, passenger Class) are presented by line charts.

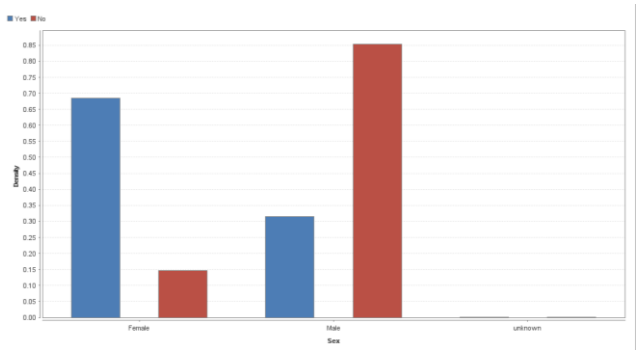
2. **Which attribute would you say shows the strongest differences between survivors and non-survivors?**
The Sex attribute has more impact in all of the algorithms.

3. **Compare it with the three algorithms used.**
    - **In Role Model:**
    The first three conditions involve Sex attribute and resulting in maximum number of records.

RuleModel

```
if Sex = Male and Passenger Fare ≤ 26.269 then No  (57 / 367)
if Sex = Female and Passenger Class = First then Yes  (97 / 4)
if Sex = Male and Passenger Fare > 31.137 then No  (33 / 90)
if Passenger Class = Second and Age ≤ 28.500 then Yes  (36 / 4)
if Passenger Fare ≤ 24.808 and Passenger Fare > 15.373 and Age > 29.441 then Yes  (18 / 3)
if Passenger Fare ≤ 14.281 then Yes  (68 / 40)
if Passenger Class = Third and Passenger Fare > 23.746 then No  (1 / 23)
if Passenger Class = Second and Passenger Fare > 30.375 then Yes  (4 / 0)
if No of Parents or Children on Board ≤ 0.500 and Age ≤ 30.441 and Passenger Fare ≤ 28.710 and Age > 28.500 then No  (1 / 8)
if Age ≤ 54 then Yes  (33 / 22)
if Age ≤ 71 then No  (0 / 6)
else Yes  (0 / 0)
```

- **In Naïve Bayes model:**
    The Sex attribute results in prominent difference of survivor and non.



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- **In Decision Tree model:**
  The first spilt is on the basis of Sex attribute.