Lab. assignment 2

2024-10-23

Exercise 1

```
library(car)

?Salaries

str(Salaries)

## 'data.frame':    397 obs. of  6 variables:
##  $ rank        : Factor w/ 3 levels "AsstProf","AssocProf",..: 3 3 1 3 3 2 3 3
3 3 ...
##  $ discipline  : Factor w/ 2 levels "A","B": 2 2 2 2 2 2 2 2 2 2 ...
##  $ yrs.since.phd: int  19 20 4 45 40 6 30 45 21 18 ...
##  $ yrs.service : int  18 16 3 39 41 6 23 45 20 18 ...
##  $ sex         : Factor w/ 2 levels "Female","Male": 2 2 2 2 2 2 2 2 2 1 ...
##  $ salary      : int  139750 173200 79750 115000 141500 97000 175000 147765
119250 129000 ...
```

1) Describe data

Assume that is a random sample.

2) What about the gender pay gap?

3) Is there any relationship between the rank and the salary?

4) Is there any relationship between the salary and the years of service?

Exercise 2

```
?TitanicSurvival

str(TitanicSurvival)

## 'data.frame':    1309 obs. of  4 variables:
##  $ survived     : Factor w/ 2 levels "no","yes": 2 2 1 1 1 2 2 1 2 1 ...
##  $ sex          : Factor w/ 2 levels "female","male": 1 2 1 2 1 2 1 2 1 2 ...
##  $ age          : num  29 0.917 2 30 25 ...
##  $ passengerClass: Factor w/ 3 levels "1st","2nd","3rd": 1 1 1 1 1 1 1 1 1 1
...
```

1) Describe data

2) Is there independence between the Survived and the Class?

3) What is the direction of the association in the cells?