Visualization of relationship between variables
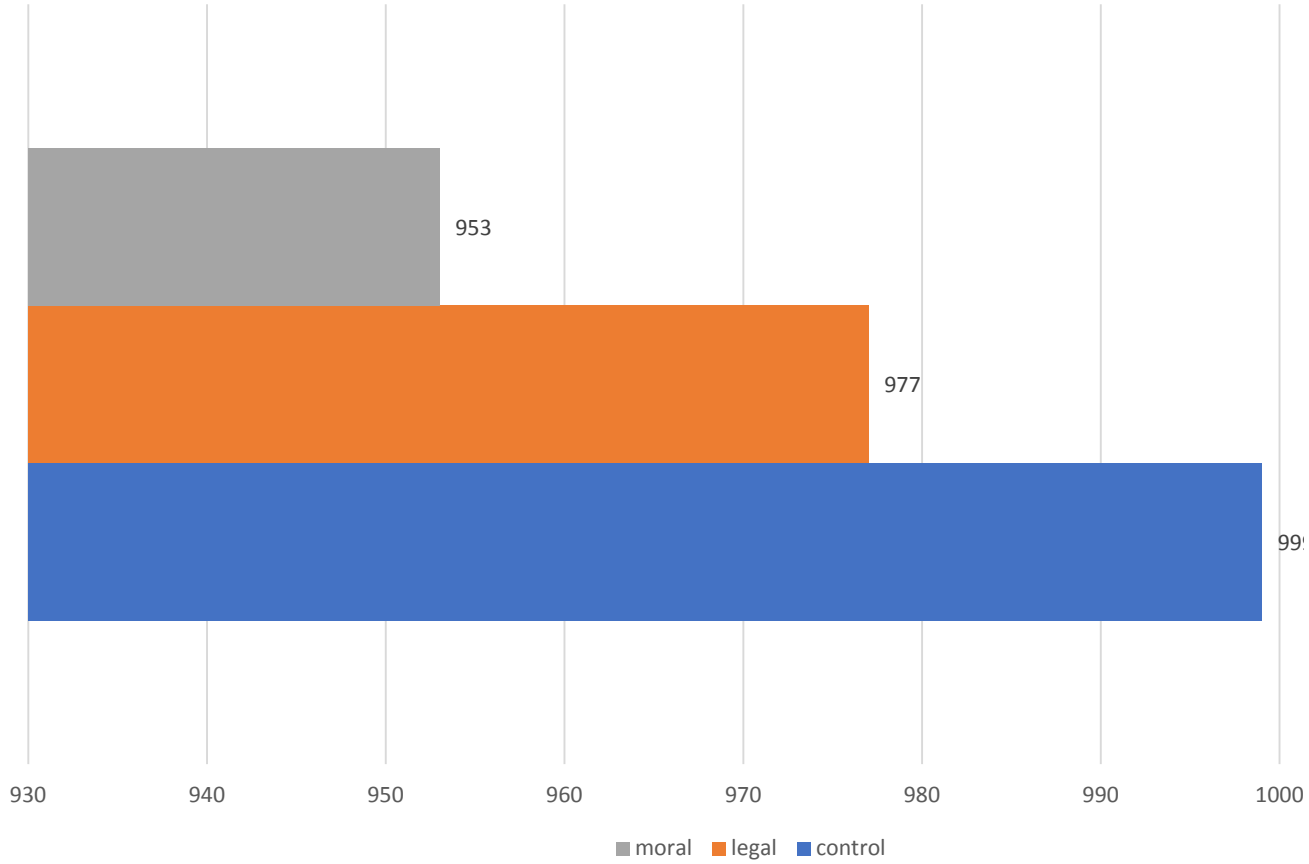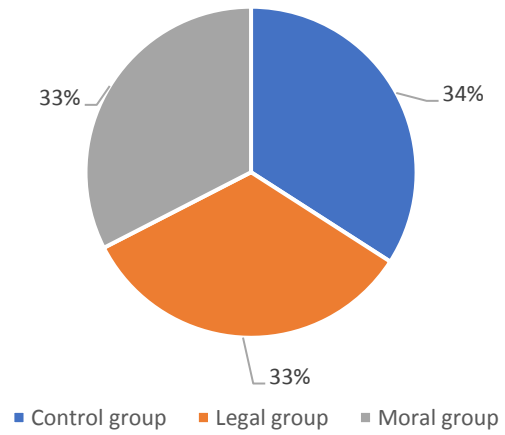
Experimental Group

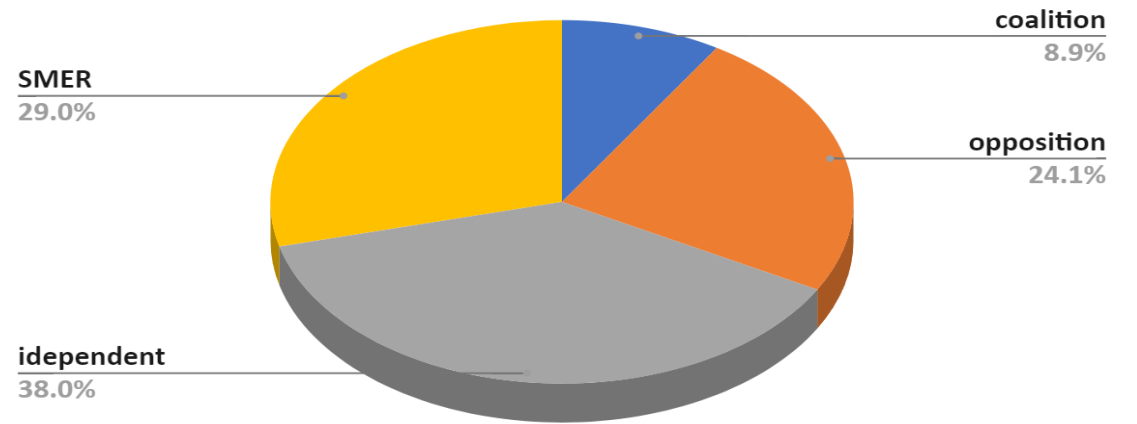|	
moral	953
legal	977
control	999

Axis: 930, 940, 950, 960, 970, 980, 990, 1000, 1010

Legend: ■ moral ■ legal ■ control

Average of hungarians for each mayor (in%)

mayor

- coalition
- idependent
- opposition
- SMER

Axis: 0.0, 5.0, 10.0, 15.0, 20.0, 25

Average of hungarians
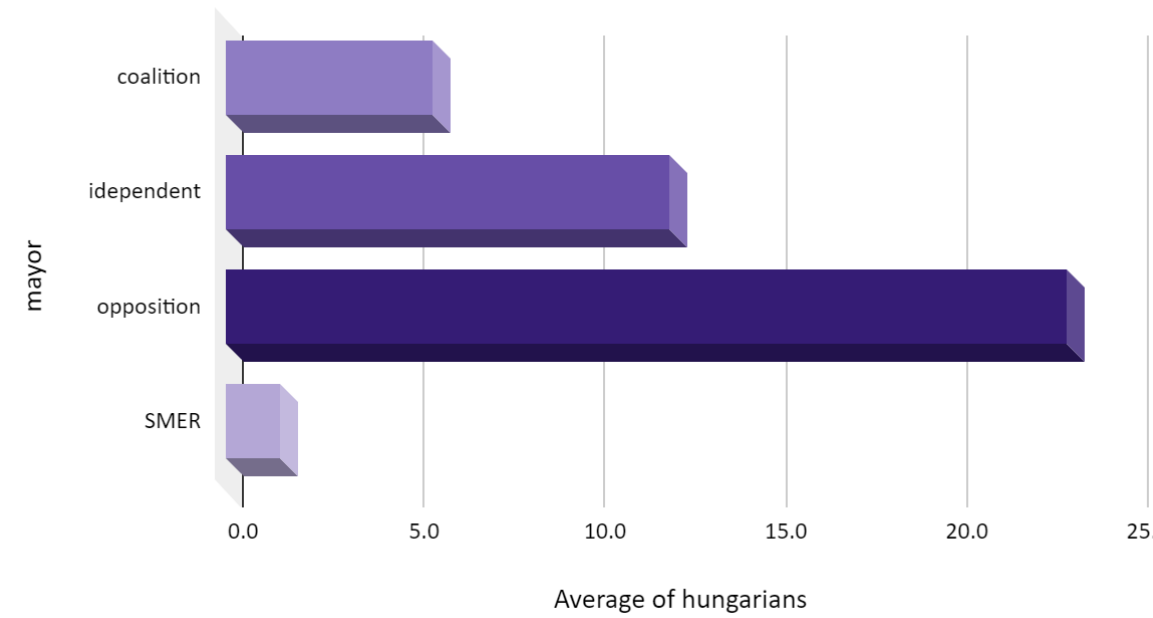
Distribution of experimental groups

34%
33%
33%

■ Control group ■ Legal group ■ Moral group

Distribution of Mayor's Political Affiliations

coalition
8.9%

SMER
29.0%

opposition
24.1%

idependent
38.0%
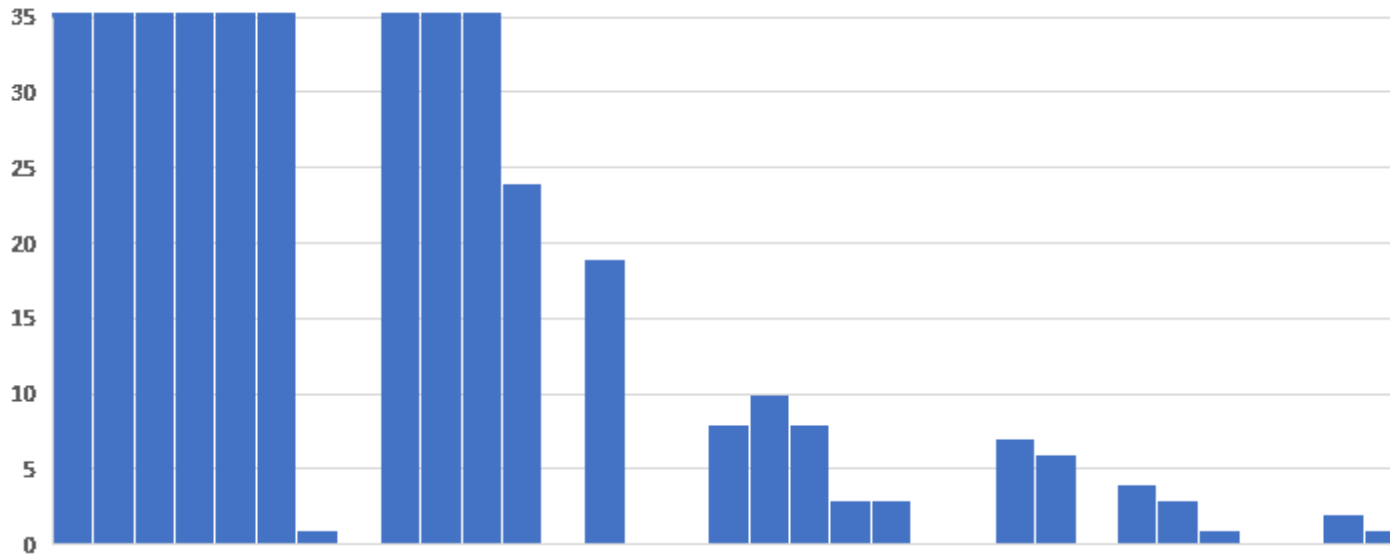
How many days have last between sending of mail and receiving the answer
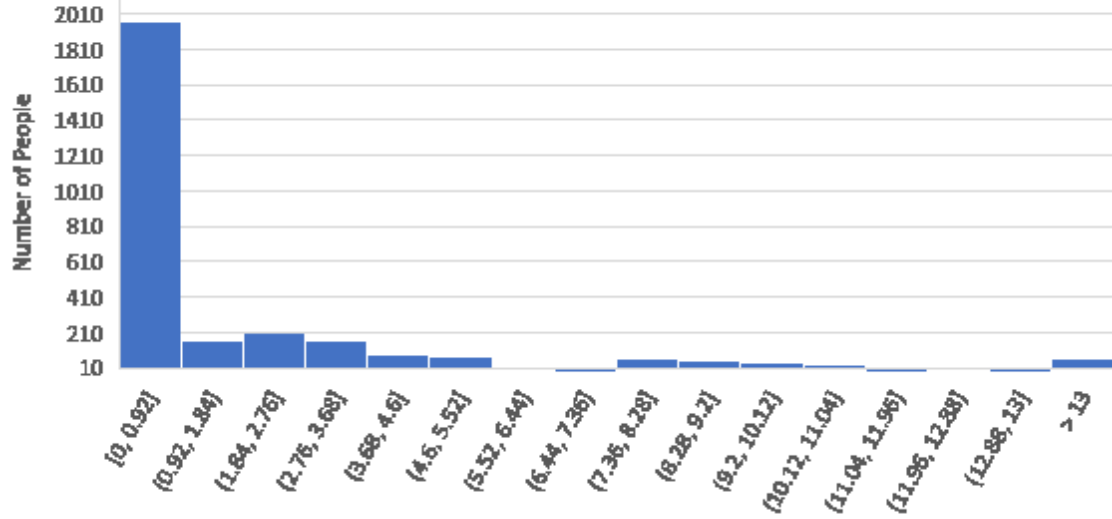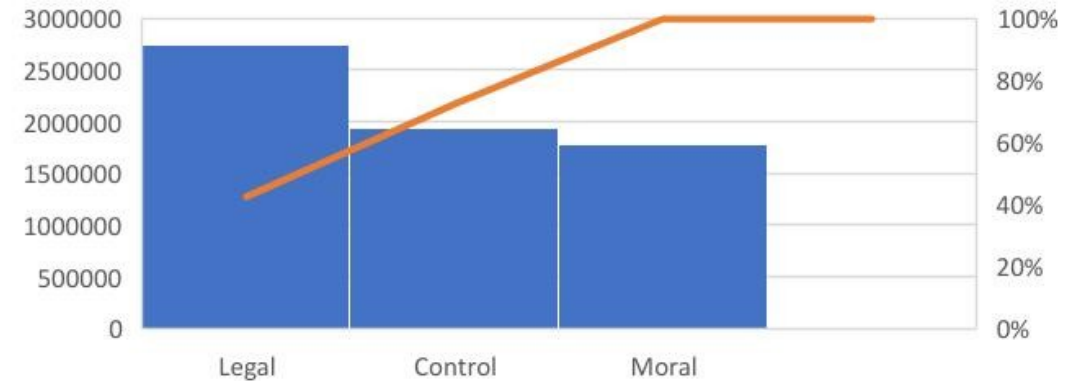

proportion of hungarians in municipality in percentage points
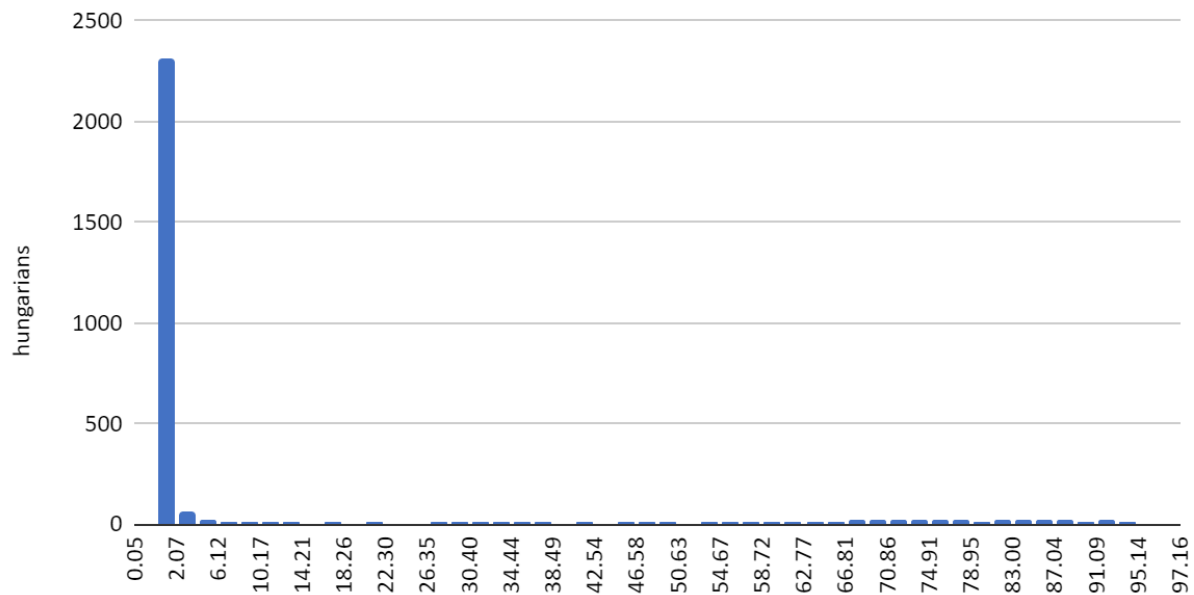

How many days have last between sending of mail and recieving the answer

HISTOGRAM SHOWING THE RELATIONSHIP BETWEEN THE EXPERIMENTAL GROUPS AND NUMBER OF INHABITANT OF MUNICIPALITY

Distribution of Proportion of Hungarians in Municipalities (% Percentage)

Two types of relationship

- Correlation – two things are going together

- Causation – one thing causes the second one
  - Only advanced methods can reveal causation

- Correlation ≠ Causation

Combinations of variables

- Categorical x categorical – stacked bar chart, series of pie charts
- Categorical x cardinal – set of boxplots
- Cardinal x cardinal - scatterplot

How to recognize relationship

- Categorical x categorical – charts are different for each category
- Categorical x cardinal – charts are different for each category
- Cardinal x cardinal – there is some pattern in scatterplot

=countif

- =COUNTIFS(B:B, 1,C:C,1)

Column with variable survival
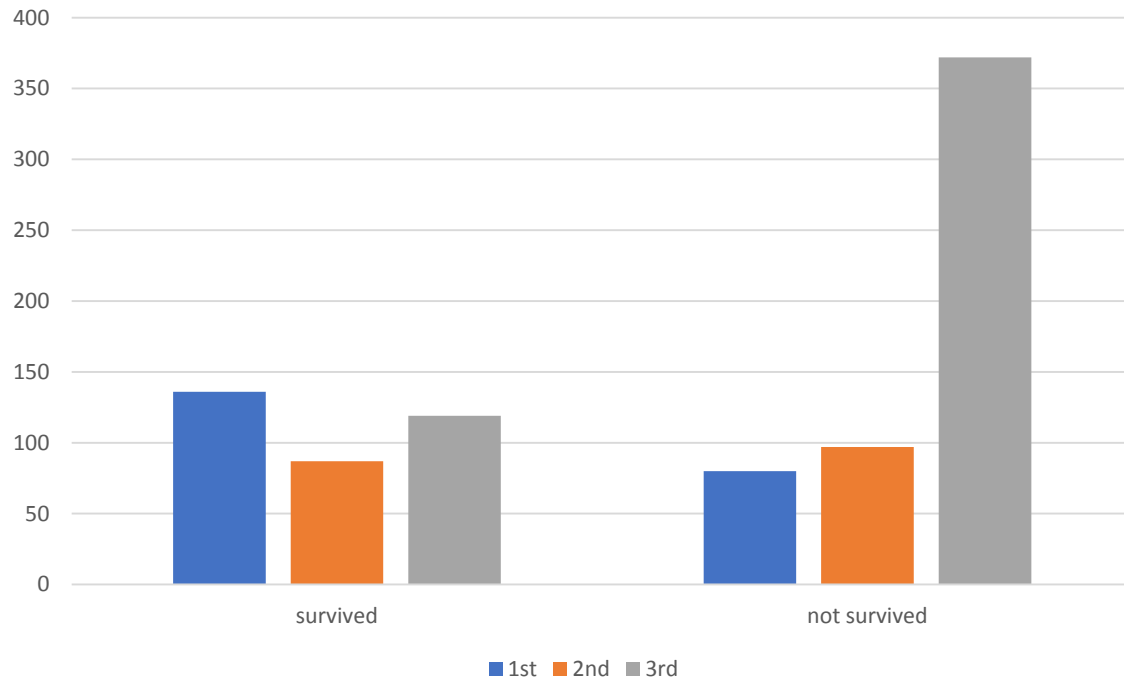
Only rows where survival = 1 are counted

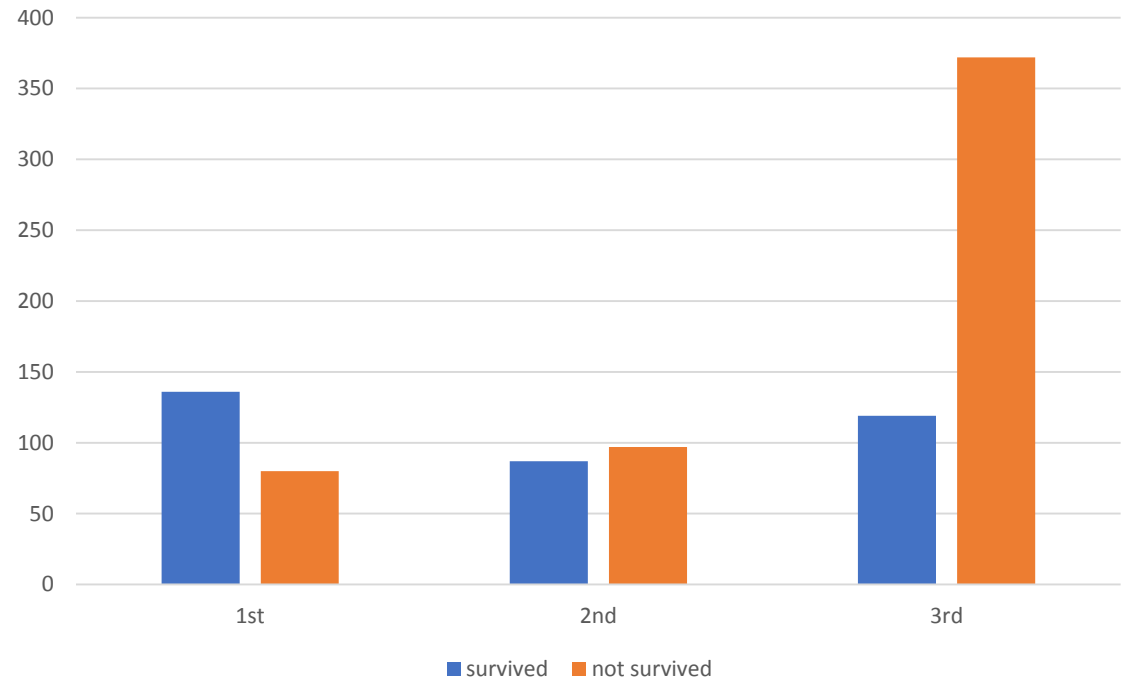Column with variable Pclass

Only rows where Pclass = 1 are counted

- Same logic for sumif, averageif, etc
- One condition ….IF
- More condition …IFS

Bar chart

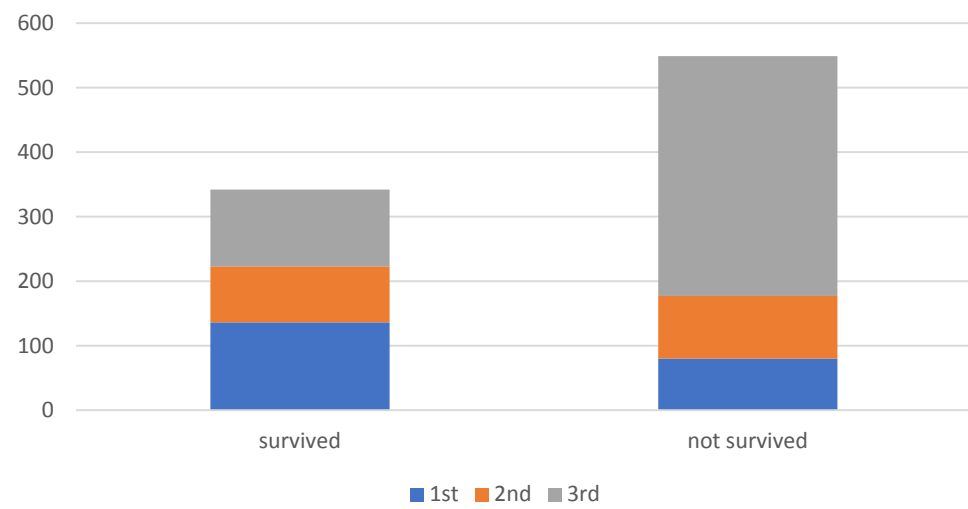Survival in different passanger classes on Titanic

Stacked bar chart
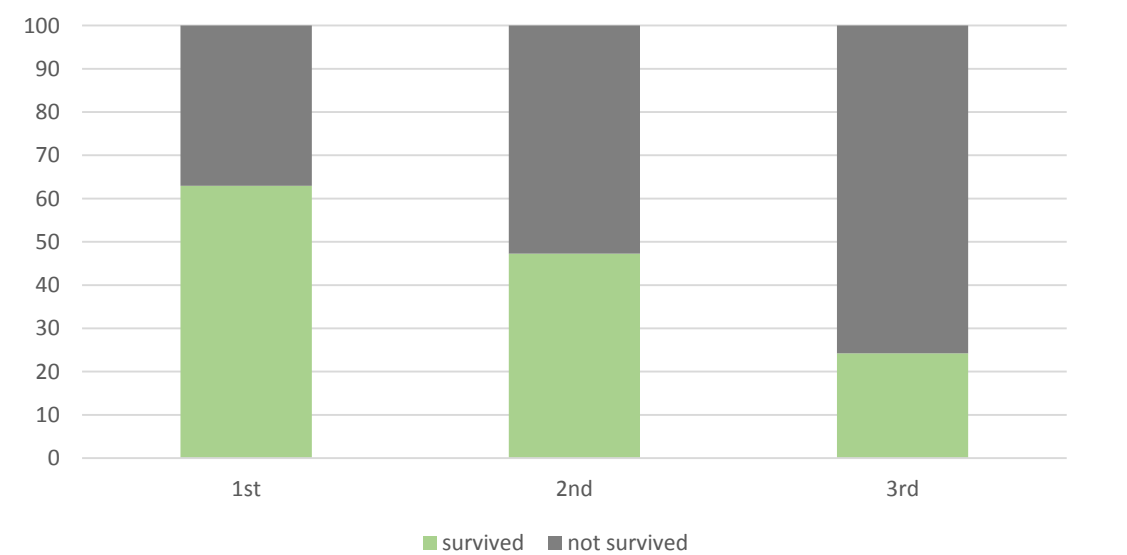

Survival in different passanger classes on Titanic

Stacked bar plot

Set of boxplots