

# STATISTICAL CONSULTING HW1

R26131125

Zhen-Wei Yu

2025-02-27

## 目錄

Data description	1
Data Visualization	3
Conclusion	5

## Data description

```
library(Hmisc)

data <- read.csv("C:\\Users\\user\\Desktop\\titanic.csv")
describe(data)
```

data

12 Variables      891 Observations

-----

PassengerId

n	missing	distinct	Info	Mean	pMedian	Gmd	.05
891	0	891	1	446	446	297.3	45.5
.10	.25	.50	.75	.90	.95		
90.0	223.5	446.0	668.5	802.0	846.5		

lowest :    1    2    3    4    5, highest: 887 888 889 890 891

-----

Survived

n	missing	distinct	Info	Sum	Mean
891	0	2	0.71	342	0.3838

-----

Pclass

n	missing	distinct	Info	Mean	pMedian	Gmd
891	0	3	0.81	2.309	2.5	0.8631

Value	1	2	3
Frequency	216	184	491
Proportion	0.242	0.207	0.551

For the frequency table, variable is rounded to the nearest 0

Name

n	missing	distinct
891	0	891

lowest : Abbing, Mr. Anthony  
highest: Yousseff, Mr. Gerious

Abbott, Mr. Rossmore Edward  
Yrois, Miss. Henriette ("Mrs Harbeck")

Abbott, Mrs. Star  
Zabour, Miss. Hil

Sex

n	missing	distinct
891	0	2

Value	female	male
Frequency	314	577
Proportion	0.352	0.648

Age

n	missing	distinct	Info	Mean	pMedian	Gmd	.05
714	177	88	0.999	29.7	29	16.21	4.00
.10	.25	.50	.75	.90	.95		
14.00	20.12	28.00	38.00	50.00	56.00		

lowest : 0.42 0.67 0.75 0.83 0.92, highest: 70 70.5 71 74 80

SibSp

n	missing	distinct	Info	Mean	pMedian	Gmd
891	0	7	0.669	0.523	0.5	0.823

Value	0	1	2	3	4	5	8
Frequency	608	209	28	16	18	5	7
Proportion	0.682	0.235	0.031	0.018	0.020	0.006	0.008

For the frequency table, variable is rounded to the nearest 0

Parch

n	missing	distinct	Info	Mean	pMedian	Gmd
891	0	7	0.556	0.3816	0	0.6259

Value	0	1	2	3	4	5	6
Frequency	678	118	80	5	4	5	1
Proportion	0.761	0.132	0.090	0.006	0.004	0.006	0.001

For the frequency table, variable is rounded to the nearest 0

Ticket

n	missing	distinct
---	---------	----------

891	0	681					
-----	---	-----	--	--	--	--	--

lowest : 110152      110413      110465      110564      110813  
highest: W./C. 6608   W./C. 6609   W.E.P. 5734   W/C 14208   WE/P 5735

---

Fare

n	missing	distinct	Info	Mean	pMedian	Gmd	.05
891	0	248	1	32.2	19.6	36.78	7.225
.10	.25	.50	.75	.90	.95		
7.550	7.910	14.454	31.000	77.958	112.079		

lowest : 0      4.0125   5      6.2375   6.4375  
highest: 227.525   247.521   262.375   263      512.329

---

Cabin

n	missing	distinct
204	687	147

lowest : A10 A14 A16 A19 A20, highest: F33 F38 F4   G6   T

---

Embarked

n	missing	distinct
889	2	3

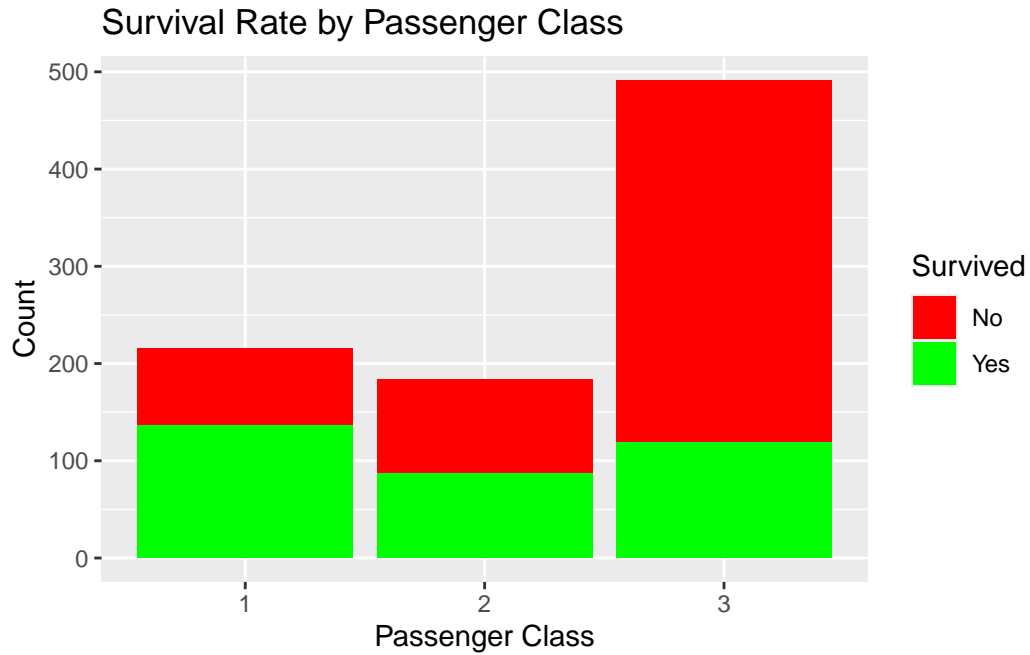
Value      C      Q      S  
Frequency   168      77      644  
Proportion 0.189 0.087 0.724

---

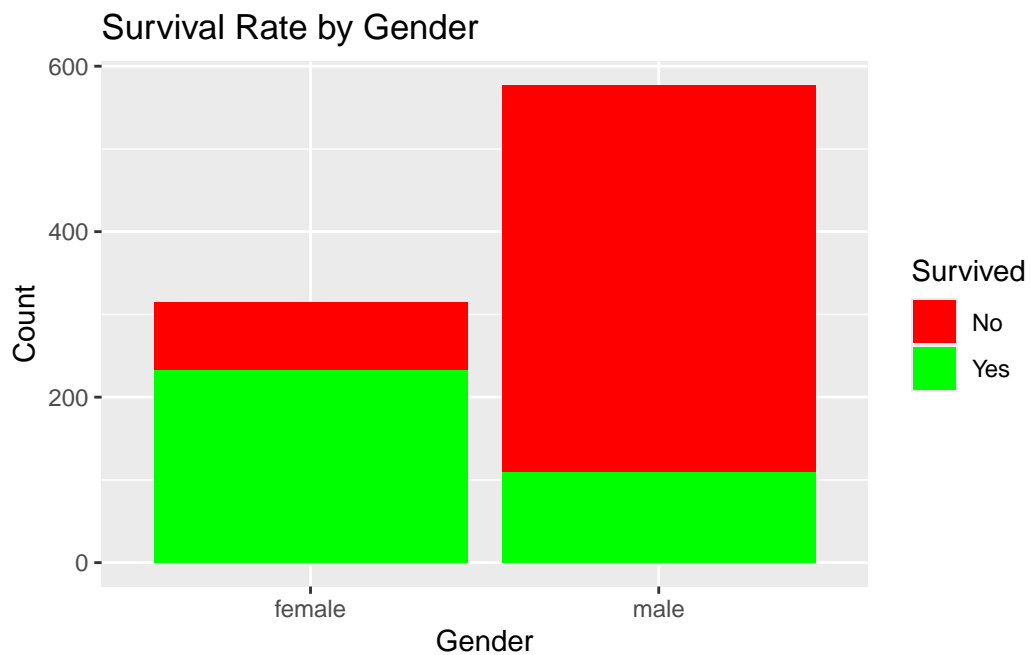
## Data Visualization

```
library(ggplot2)

ggplot(data, aes(x = as.factor(Pclass),
                  fill = as.factor(Survived)))+
  geom_bar() +labs(title = "Survival Rate by Passenger Class",
                  x = "Passenger Class", y = "Count") +
  scale_fill_manual(values = c("red", "green"),
                  name = "Survived", labels = c("No", "Yes"))
```

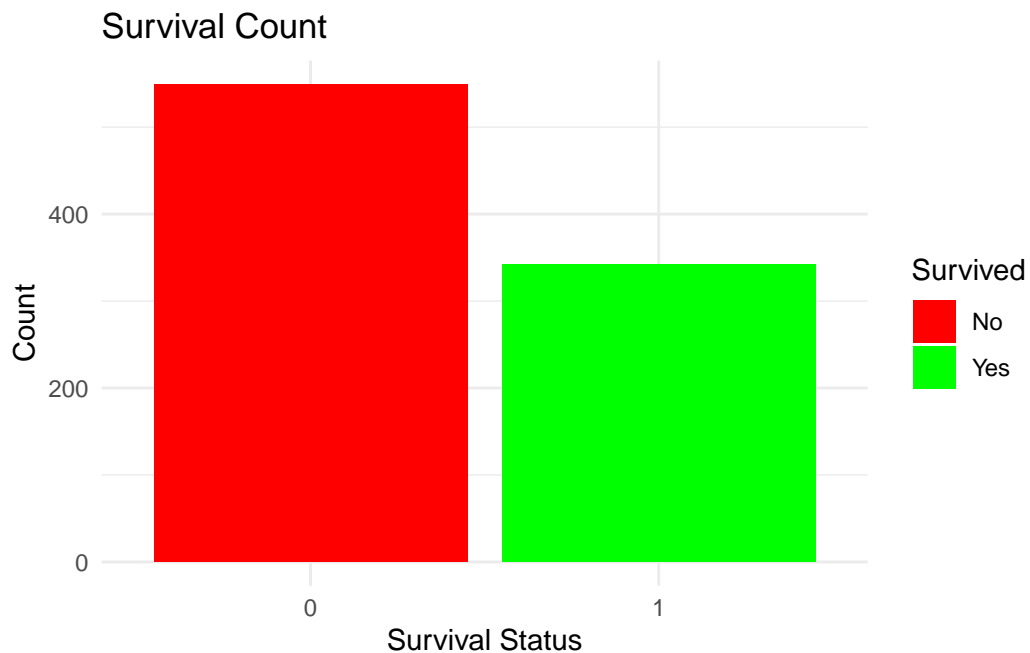


```
ggplot(data, aes(x = Sex, fill = as.factor(Survived))) +
  geom_bar() + labs(title = "Survival Rate by Gender",
                    x = "Gender", y = "Count") +
  scale_fill_manual(values = c("red", "green"),
                    name = "Survived", labels = c("No", "Yes"))
```



```
ggplot(data, aes(x = as.factor(Survived), fill = as.factor(Survived))) +
  geom_bar() +
  labs(title = "Survival Count",
```

```
x = "Survival Status", y = "Count") +  
scale_fill_manual(values = c("red", "green"),  
                  name = "Survived", labels = c("No", "Yes")) +  
theme_minimal()
```



## Conclusion

- Passengers in higher-class cabins had a higher survival rate.
- Women had a higher survival rate than men.
- More people died than survived.