Lab1

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```
library('vcdExtra')
```

```
## Warning: package 'vcdExtra' was built under R version 4.0.4
```

```
## Loading required package: vcd
```

```
## Warning: package 'vcd' was built under R version 4.0.4
```

```
## Loading required package: grid
```

```
## Loading required package: gnm
```

```
## Warning: package 'gnm' was built under R version 4.0.4
```

```
library('Sleuth3')
```

```
## Warning: package 'Sleuth3' was built under R version 4.0.3
```

```
library("gnm")
library(tidyverse)
```

```
## Warning: package 'tidyverse' was built under R version 4.0.3
```

```
## -- Attaching packages ---------------------------------------------------------------------------
```

```
## v ggplot2 3.3.3     v purrr   0.3.4
## v tibble  3.0.3     v dplyr   1.0.2
## v tidyr   1.1.2     v stringr 1.4.0
## v readr   1.4.0     v forcats 0.5.0
```

```
## Warning: package 'ggplot2' was built under R version 4.0.3
```

```
## Warning: package 'tidyr' was built under R version 4.0.3
```

```
## Warning: package 'readr' was built under R version 4.0.3
```

```
## Warning: package 'purrr' was built under R version 4.0.3
```

```
## Warning: package 'dplyr' was built under R version 4.0.3
```

```
## Warning: package 'forcats' was built under R version 4.0.3

## -- Conflicts ---------------------------------------------------------------------------------------
## x dplyr::filter()    masks stats::filter()
## x dplyr::lag()       masks stats::lag()
## x dplyr::summarise() masks vcdExtra::summarise()

Also, save the notebook as something like "Lab_Assignment_1" using "File" --> "Save As..."

The R Notebook template in your new file contains some description of the R Notebook format, with a cou

In your new .Rmd script, answer the questions in the "Questions" section below. Include all the code yo
```

Question 1

Q1.

Starting from the `case1902` data file in the *Sleuth3* package, produce a flat table With Aggravation level as the rows, with Death/NoDeath as the two wide columns that contain Black/White within them. That is, the skeleton of your table should look like (you should look at this in Preview):

.	Death		NoDeath	
.	Black	White	Black	White
1	.	.	.	.
2	.	.	.	.
3	.	.	.	.
4	.	.	.	.
5	.	.	.	.
6	.	.	.	.

```
penalty <- case1902
penalty_freq <- gather(data = penalty, key = Sentence, value = Freq, c("Death", "NoDeath"), factor_key =


penalty_tab <- xtabs(Freq~ Sentence + Victim + Aggravation, penalty_freq)
#penalty_freq


table <- penalty_tab %>% aperm(c(1, 2, 3)) %>% structable(direction = c("v", "v", "h"))

table
```

```
##             Sentence Death       NoDeath
##             Victim   Black White   Black White
## Aggravation
## 1                        1     2     181    60
## 2                        1     2      21    15
## 3                        2     6       9     7
## 4                        2     9       4     3
## 5                        4     9       3     0
```

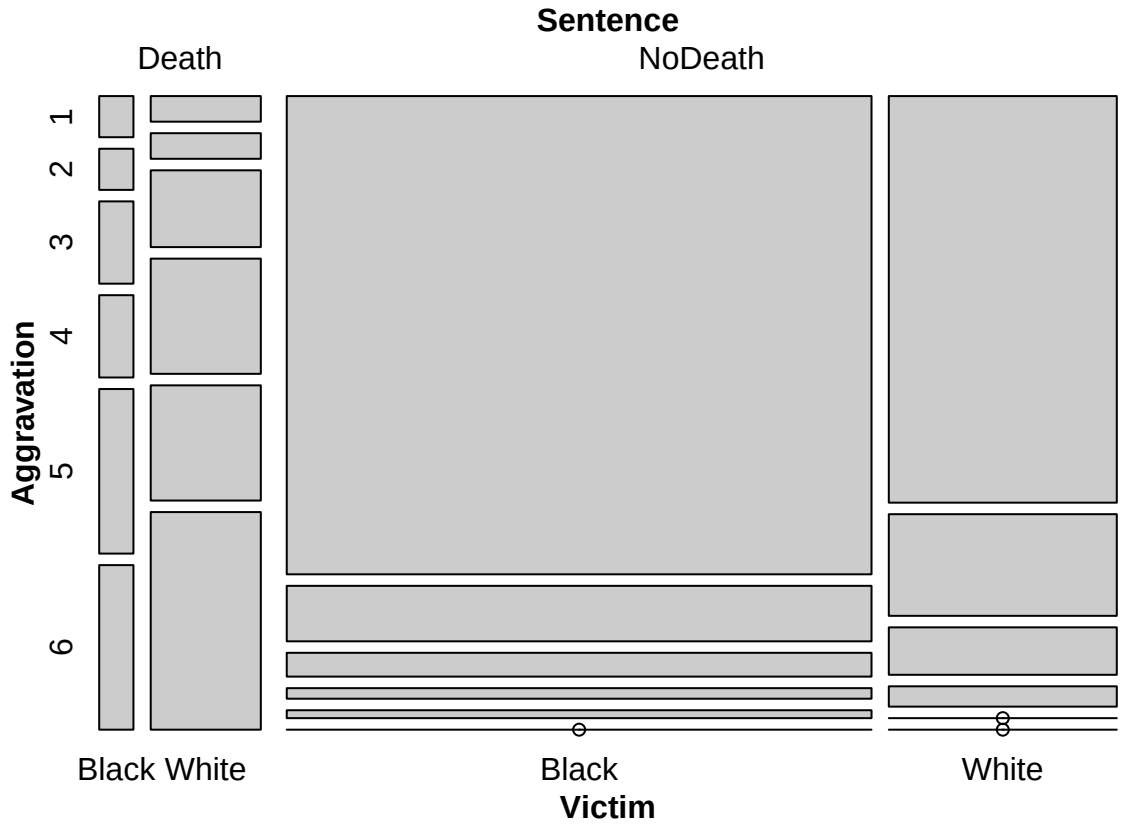
```
## 6                    4    17        0      0
```

Question 2

Q2.

Create a mosaic plot of the flat table you produced in question 1. Are there problems with your plot? Is it easy to understand? You are welcome to play around with making it more interpretable and/or visually appealing, but that's optional for this assignment.

```
mosaic(table)
```



This visual was created without error, but it's nowhere near as clear as the flat table plot in the lab. The aggrivation on the Y axis puts a weird limit on the boxes that doesn't really hold consistent throughout the visual. I reccomend using the flat table plot.