

1.your_first_notebook_R

October 20, 2021

1 Your first notebook

1.1 Your system

```
[1]: version
      getwd()

platform      _
arch           x86_64-apple-darwin17.0
arch          x86_64
os            darwin17.0
system        x86_64, darwin17.0
status
major         4
minor         1.1
year          2021
month         08
day           10
svn rev       80725
language      R
version.string R version 4.1.1 (2021-08-10)
nickname      Kick Things

'/Users/miguelportela/Documents/GitHub/R_Training/jupyter_notebooks'
```

1.2 Define your packages

```
[2]: library(tidyverse)
      library(stargazer)
      library(SmartEDA)

Attaching packages
1.3.1 tidyverse

ggplot2 3.3.5 purrr 0.3.4
tibble 3.1.3 dplyr 1.0.7
tidyr 1.1.3 stringr 1.4.0
readr 2.0.1 forcats 0.5.1
```

```

Conflicts
tidyverse_conflicts()
  dplyr::filter() masks stats::filter()
  dplyr::lag()    masks stats::lag()

```

Please cite as:

Hlavac, Marek (2018). stargazer: Well-Formatted Regression and Summary Statistics Tables.

R package version 5.2.2. <https://CRAN.R-project.org/package=stargazer>

Registered S3 method overwritten by 'GGally':

```

method from
+.gg      ggplot2

```

1.3 Upload the data

```
[3]: data(mtcars)
     nrow(mtcars)
```

32

1.4 Describe the data

```
[4]: head(mtcars)
```

	mpg	cyl	disp	hp	drat	wt	qsec	vs
	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>
Mazda RX4	21.0	6	160	110	3.90	2.620	16.46	0
Mazda RX4 Wag	21.0	6	160	110	3.90	2.875	17.02	0
Datsun 710	22.8	4	108	93	3.85	2.320	18.61	1
Hornet 4 Drive	21.4	6	258	110	3.08	3.215	19.44	1
Hornet Sportabout	18.7	8	360	175	3.15	3.440	17.02	0
Valiant	18.1	6	225	105	2.76	3.460	20.22	1

A data.frame: 6 × 11

```
[5]: dplyr::glimpse(mtcars)
```

Rows: 32

Columns: 11

```
$ mpg <dbl> 21.0, 21.0, 22.8, 21.4, 18.7, 18.1, 14.3, 24.4,
22.8, 19.2, 17.8,...
```

```
$ cyl <dbl> 6, 6, 4, 6, 8, 6, 8, 4, 4, 6, 6, 8, 8, 8, 8,
8, 4, 4, 4, 4, 8,...
```

```
$ disp <dbl> 160.0, 160.0, 108.0, 258.0, 360.0, 225.0, 360.0,
```

```

146.7, 140.8, 16...
$ hp    <dbl> 110, 110, 93, 110, 175, 105, 245, 62, 95, 123,
123, 180, 180, 180...
$ drat <dbl> 3.90, 3.90, 3.85, 3.08, 3.15, 2.76, 3.21, 3.69,
3.92, 3.92, 3.92,...
$ wt    <dbl> 2.620, 2.875, 2.320, 3.215, 3.440, 3.460, 3.570,
3.190, 3.150, 3.150,...
$ qsec <dbl> 16.46, 17.02, 18.61, 19.44, 17.02, 20.22, 15.84,
20.00, 22.90, 18.70,...
$ vs    <dbl> 0, 0, 1, 1, 0, 1, 0, 1, 1, 1, 1, 0, 0, 0, 0, 0,
0, 1, 1, 1, 1, 1, 0,...
$ am    <dbl> 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 1, 1, 1, 0, 0,...
$ gear <dbl> 4, 4, 4, 3, 3, 3, 3, 4, 4, 4, 4, 3, 3, 3, 3, 3,
3, 4, 4, 4, 3, 3,...
$ carb <dbl> 4, 4, 1, 1, 2, 1, 4, 2, 2, 4, 4, 3, 3, 3, 4, 4,
4, 1, 2, 1, 1, 2,...

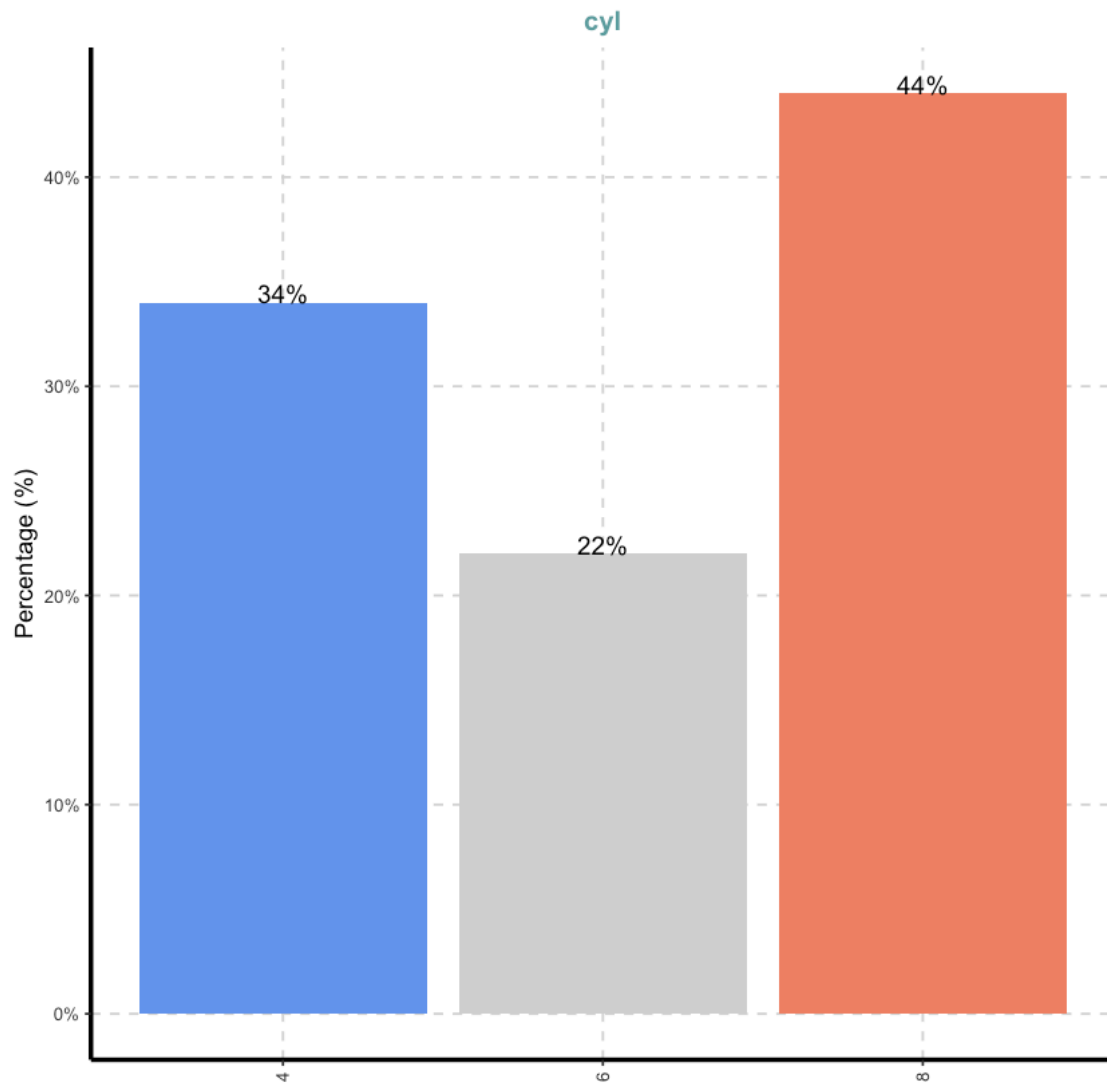
```

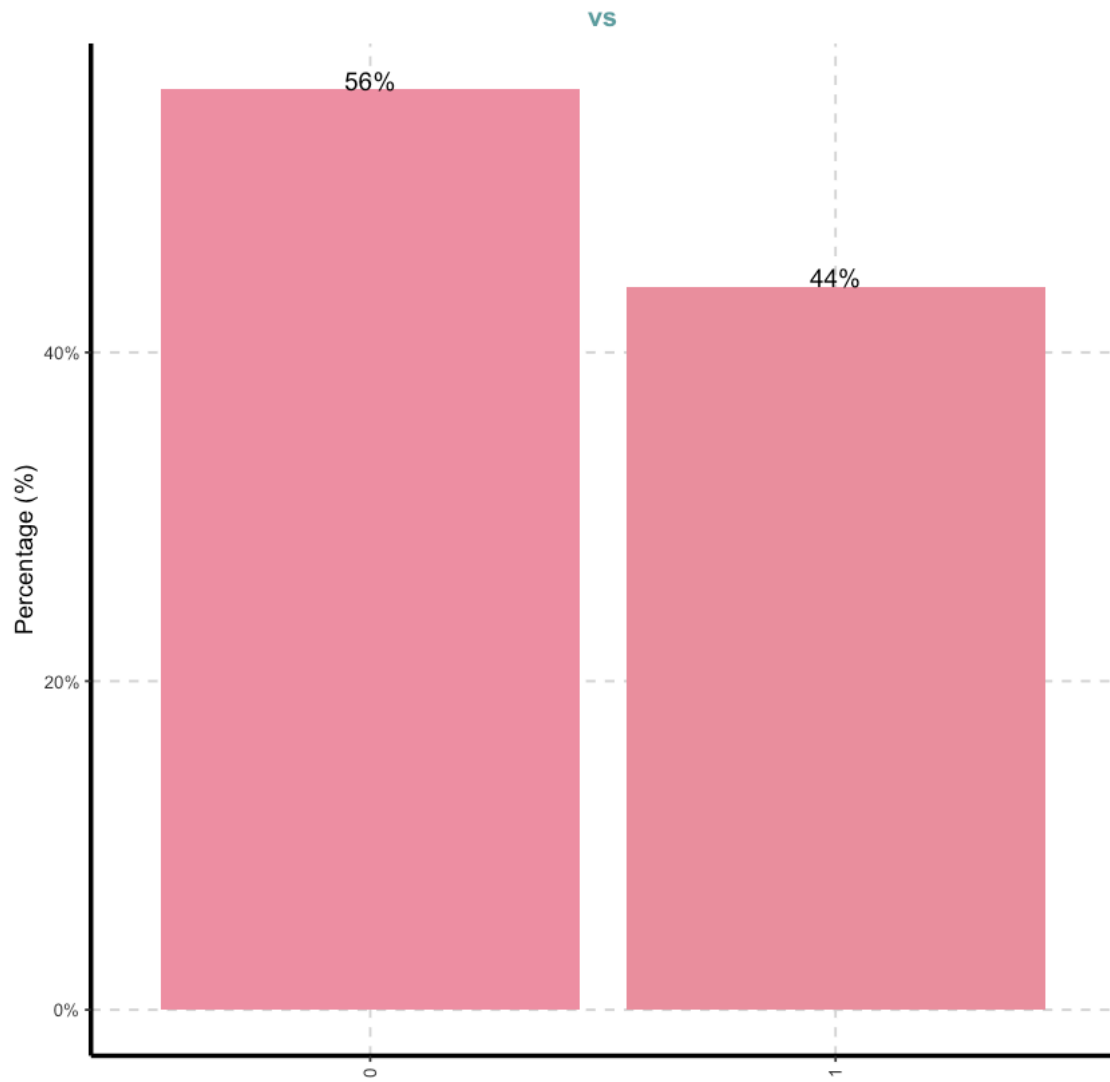
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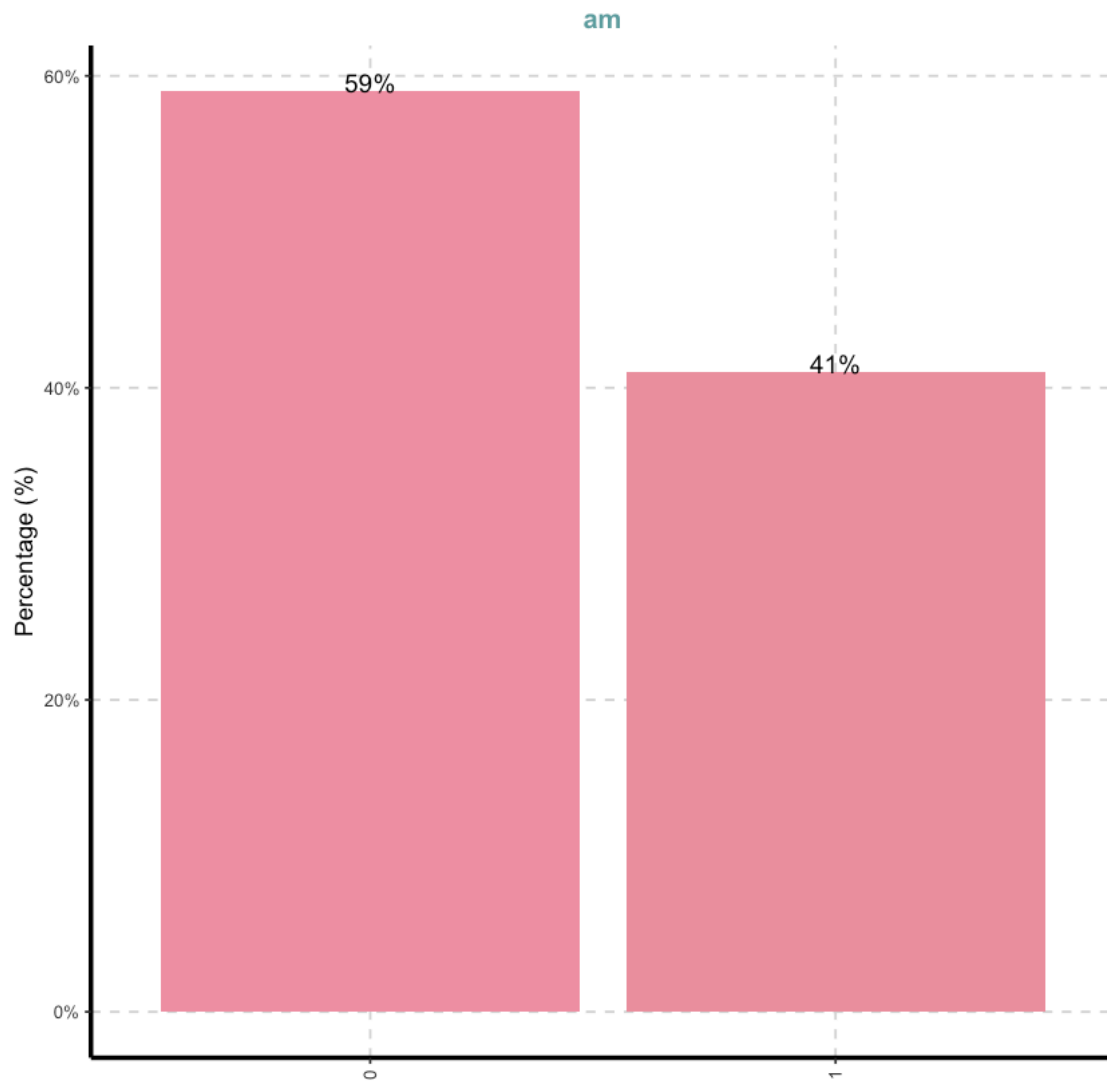
```
[6]: summary(mtcars$mpg)
```

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
10.40	15.43	19.20	20.09	22.80	33.90

```
[7]: ExpCatViz(mtcars)
```







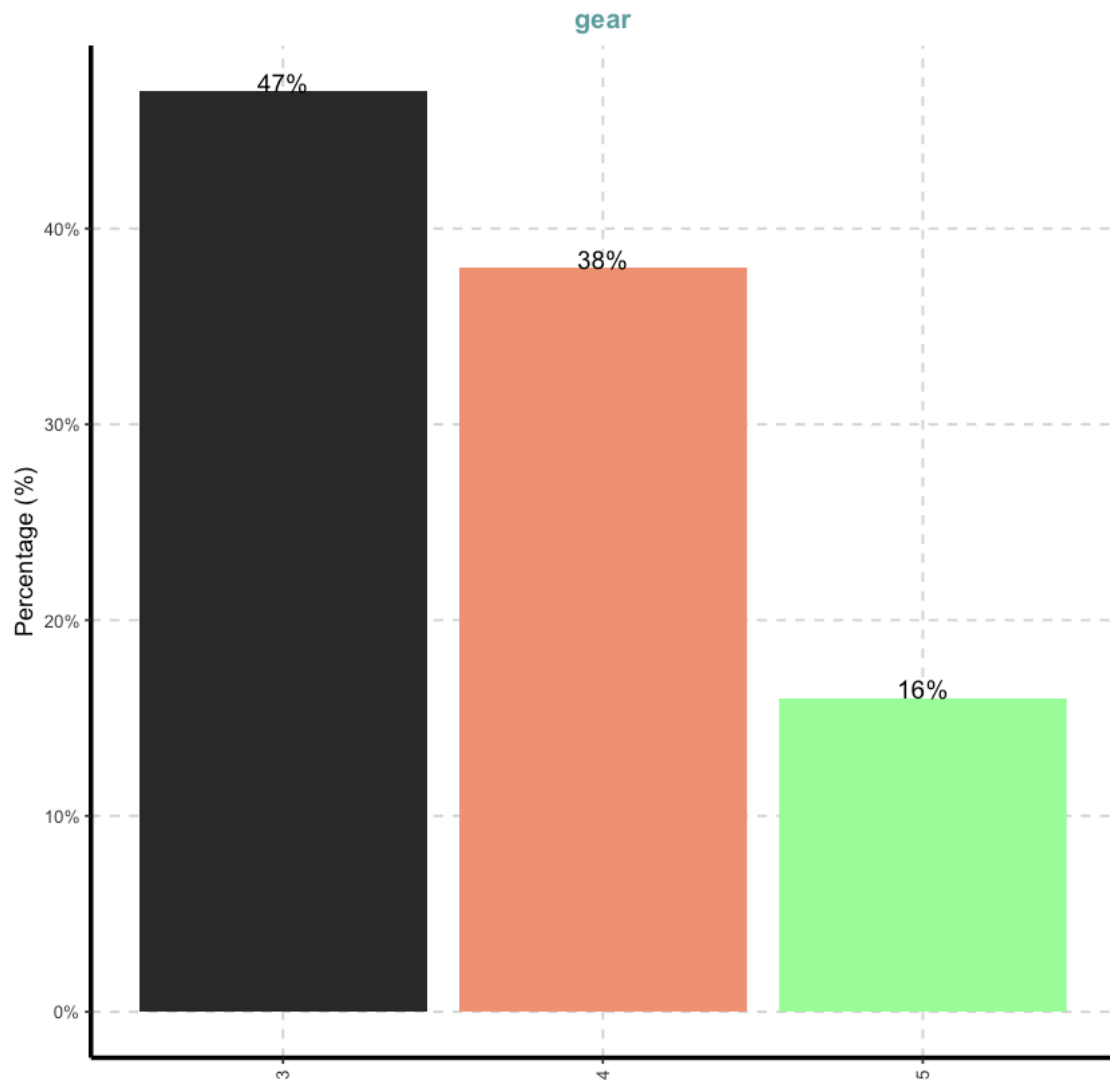
[[1]]

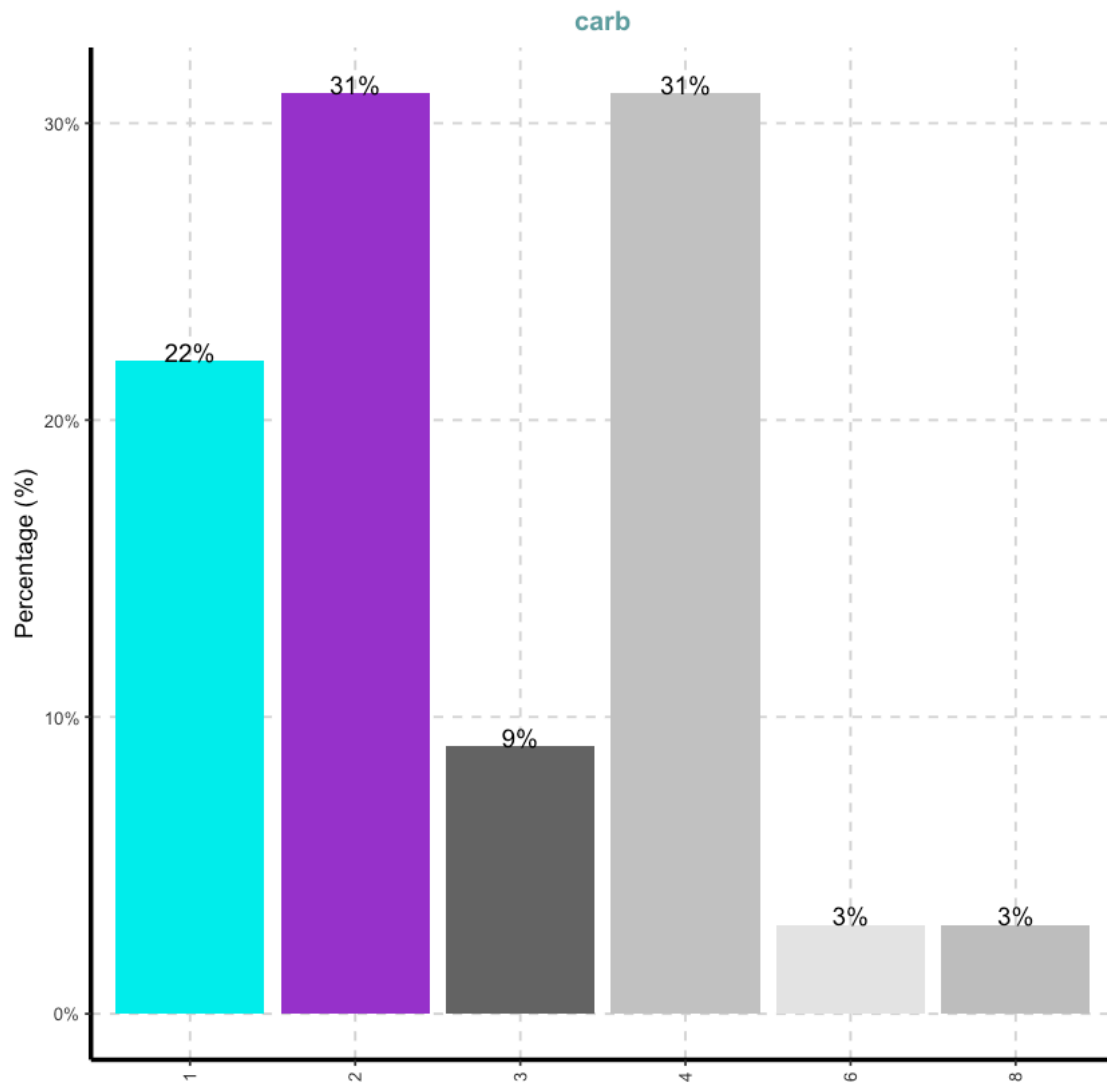
[[2]]

[[3]]

[[4]]

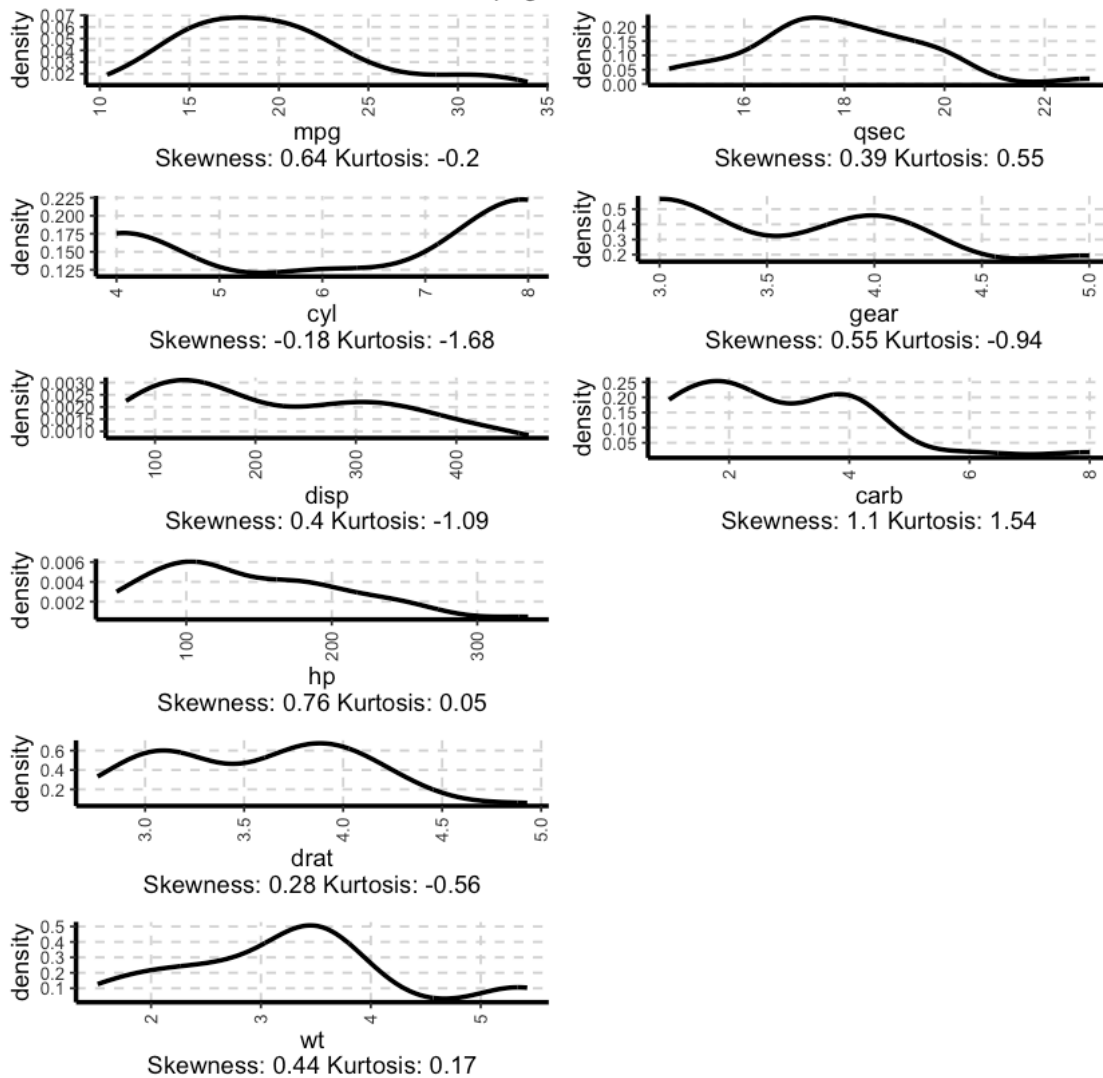
[[5]]





```
[8]: ExpNumViz(mtcars,Page=c(6,2))
```

\$`0`



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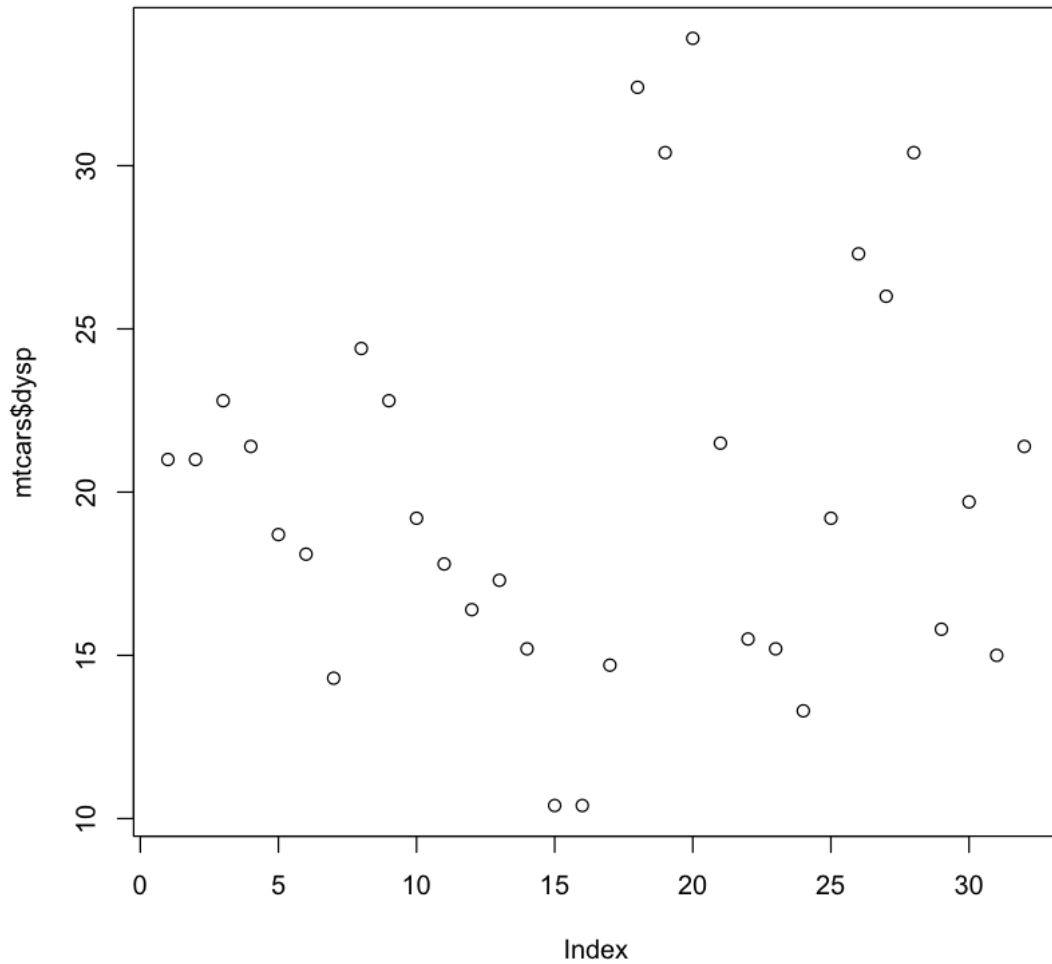
```
[9]: stargazer(mtcars,
            title = "Summary statistics",
            label = "tb:statisticis",
            table.placement = "ht",
            header=FALSE,type="text")
```

Summary statistics

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
mpg	32	20.091	6.027	10	15.4	22.8	34
cyl	32	6.188	1.786	4	4	8	8
disp	32	230.722	123.939	71	120.8	326	472
hp	32	146.688	68.563	52	96.5	180	335
drat	32	3.597	0.535	2.760	3.080	3.920	4.930
wt	32	3.217	0.978	1.513	2.581	3.610	5.424
qsec	32	17.849	1.787	14.500	16.892	18.900	22.900
vs	32	0.438	0.504	0	0	1	1
am	32	0.406	0.499	0	0	1	1
gear	32	3.688	0.738	3	3	4	5
carb	32	2.812	1.615	1	2	4	8

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```
[10]: plot(mtcars$mpg,mtcars$dysp)
```



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1.5 First regression

We define our first model for y_{it}^k as

$$y_{it}^k = \beta_0 + \beta_1 x_{it} + \eta_i + \gamma_t \varepsilon_{it} \quad (1)$$

```
[11]: M1 <- lm(data = mtcars,mpg ~ wt)
```

```
[12]: stargazer(M1,title = "Regression analysis",
  model.numbers = FALSE,column.labels = c("Model 1"),
  label = "regressions",table.placement = "!ht",
  notes.append = FALSE,notes.align="l",
  notes="Standard errors in parentheses.",
  header = FALSE,no.space = TRUE,covariate.labels = c("TENURE"),
  omit = c("Constant"),omit.stat = c("adj.rsq","f","ser"),digits = 2,
  digits.extra = 4,omit.yes.no = c("Constant",""),
  dep.var.caption="",
  dep.var.labels.include = FALSE,style = "qje",type="text")
```

Regression analysis

```
=====
                Model 1
TENURE          -5.34***
                (0.56)
N                32
R2              0.75
=====
```

Notes: Standard errors in parentheses.

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2 Conclusion

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