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Looong report

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Contents

Dataset	2
Descriptives	5
In details	5
mpg	5
cyl	7
disp	7
hp	10
drat	10
wt	12
qsec	13
vs	15
am	15
gear	18
carb	20
Correlation	20
Some models	22
mpg	22
cyl	22
disp	24

hp	24
drat	24
qsec	25
vs	25
am	25
gear	25
carb	26

I have written the below report in 10 mins :)

Dataset

Here I will do a pretty fast report on `mtcars` which is:

	mpg	cyl	disp	hp	drat	wt
Mazda RX4	21	6	160	110	3.9	2.6
Mazda RX4 Wag	21	6	160	110	3.9	2.9
Datsun 710	23	4	108	93	3.9	2.3
Hornet 4 Drive	21	6	258	110	3.1	3.2
Hornet Sportabout	19	8	360	175	3.1	3.4
Valiant	18	6	225	105	2.8	3.5
Duster 360	14	8	360	245	3.2	3.6
Merc 240D	24	4	147	62	3.7	3.2
Merc 230	23	4	141	95	3.9	3.1
Merc 280	19	6	168	123	3.9	3.4
Merc 280C	18	6	168	123	3.9	3.4
Merc 450SE	16	8	276	180	3.1	4.1
Merc 450SL	17	8	276	180	3.1	3.7
Merc 450SLC	15	8	276	180	3.1	3.8
Cadillac Fleetwood	10	8	472	205	2.9	5.2
Lincoln Continental	10	8	460	215	3.0	5.4
Chrysler Imperial	15	8	440	230	3.2	5.3
Fiat 128	32	4	79	66	4.1	2.2
Honda Civic	30	4	76	52	4.9	1.6
Toyota Corolla	34	4	71	65	4.2	1.8
Toyota Corona	22	4	120	97	3.7	2.5
Dodge Challenger	16	8	318	150	2.8	3.5
AMC Javelin	15	8	304	150	3.1	3.4
Camaro Z28	13	8	350	245	3.7	3.8
Pontiac Firebird	19	8	400	175	3.1	3.8
Fiat X1-9	27	4	79	66	4.1	1.9
Porsche 914-2	26	4	120	91	4.4	2.1
Lotus Europa	30	4	95	113	3.8	1.5
Ford Pantera L	16	8	351	264	4.2	3.2
Ferrari Dino	20	6	145	175	3.6	2.8
Maserati Bora	15	8	301	335	3.5	3.6
Volvo 142E	21	4	121	109	4.1	2.8

	qsec	vs	am	gear	carb
Mazda RX4	16	0	1	4	4
Mazda RX4 Wag	17	0	1	4	4
Datsun 710	19	1	1	4	1
Hornet 4 Drive	19	1	0	3	1
Hornet Sportabout	17	0	0	3	2
Valiant	20	1	0	3	1
Duster 360	16	0	0	3	4
Merc 240D	20	1	0	4	2
Merc 230	23	1	0	4	2
Merc 280	18	1	0	4	4
Merc 280C	19	1	0	4	4
Merc 450SE	17	0	0	3	3
Merc 450SL	18	0	0	3	3
Merc 450SLC	18	0	0	3	3
Cadillac Fleetwood	18	0	0	3	4
Lincoln Continental	18	0	0	3	4
Chrysler Imperial	17	0	0	3	4
Fiat 128	19	1	1	4	1
Honda Civic	19	1	1	4	2
Toyota Corolla	20	1	1	4	1
Toyota Corona	20	1	0	3	1
Dodge Challenger	17	0	0	3	2
AMC Javelin	17	0	0	3	2
Camaro Z28	15	0	0	3	4
Pontiac Firebird	17	0	0	3	2
Fiat X1-9	19	1	1	4	1
Porsche 914-2	17	0	1	5	2
Lotus Europa	17	1	1	5	2
Ford Pantera L	14	0	1	5	4
Ferrari Dino	16	0	1	5	6
Maserati Bora	15	0	1	5	8
Volvo 142E	19	⁴ ₁	1	4	2

Descriptives

	Average	Median	Standard.deviation	Variance
mpg	20.09	19.2	6.03	3.6e+01
cyl	6.19	6.0	1.79	3.2e+00
disp	230.72	196.3	123.94	1.5e+04
hp	146.69	123.0	68.56	4.7e+03
drat	3.60	3.7	0.53	2.9e-01
wt	3.22	3.3	0.98	9.6e-01
qsec	17.85	17.7	1.79	3.2e+00
vs	0.44	0.0	0.50	2.5e-01
am	0.41	0.0	0.50	2.5e-01
gear	3.69	4.0	0.74	5.4e-01
carb	2.81	2.0	1.62	2.6e+00

In details

mpg

We found the folloing values here:

21, 21, 22.8, 21.4, 18.7, 18.1, 14.3, 24.4, 22.8, 19.2, 17.8, 16.4, 17.3, 15.2, 10.4, 10.4, 14.7, 32.4, 30.4, 33.9, 21.5, 15.5, 15.2, 13.3, 19.2, 27.3, 26, 30.4, 15.8, 19.7, 15 and 21.4

The mean of mpg is *20.090625* while the standard deviation is: *6.0269480520891*.
The most frequent value in mpg is 10.4, but let us check out the frequency table too:

10.4	13.3	14.3	14.7	15	15.2	15.5	15.8
2	1	1	1	1	2	1	1

16.4	17.3	17.8	18.1	18.7	19.2	19.7	21
1	1	1	1	1	2	1	2

21.4	21.5	22.8	24.4	26	27.3	30.4
2	1	2	1	1	1	2

32.4	33.9
1	1

Tables are boring, let us show the same with a **histogram**:

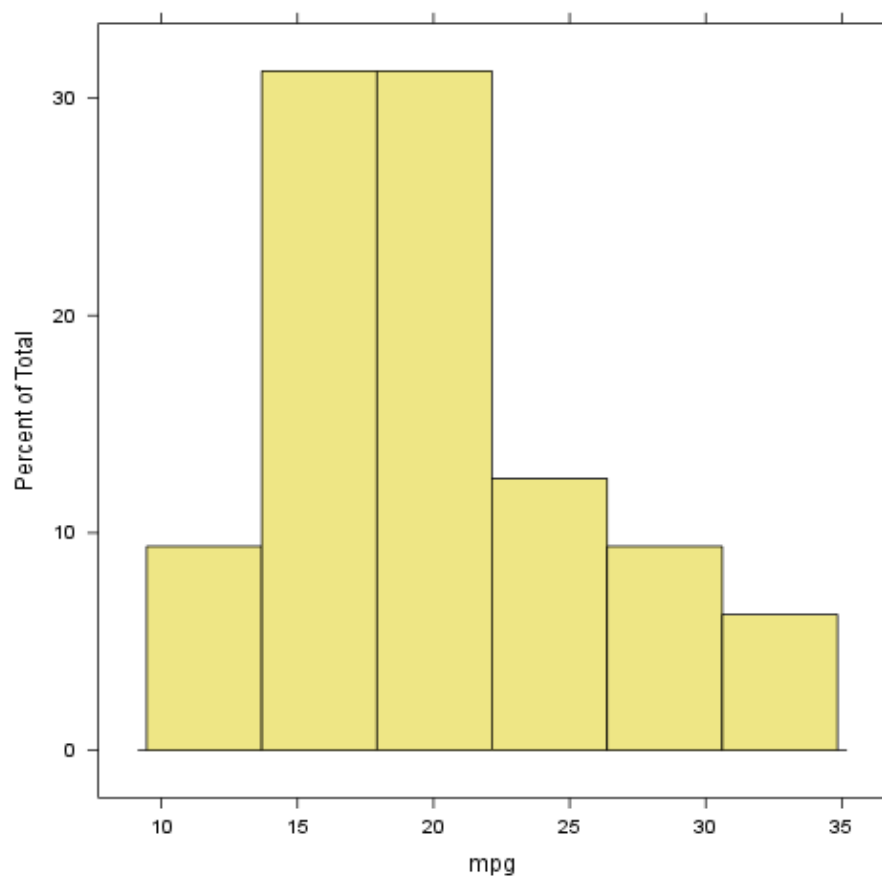


Figure 1:

cyl

We found the folloing values here:

6, 6, 4, 6, 8, 6, 8, 4, 4, 6, 6, 8, 8, 8, 8, 8, 8, 4, 4, 4, 4, 8, 8, 8, 8, 4, 4, 4, 8, 6, 8
and *4*

The mean of cyl is *6.1875* while the standard deviation is: *1.78592164694654*.
The most frequent value in cyl is 8, but let us check out the frequency table too:

4	6	8
11	7	14

Tables are boring, let us show the same with a **histogram**:

disp

We found the folloing values here:

160, 160, 108, 258, 360, 225, 360, 146.7, 140.8, 167.6, 167.6, 275.8, 275.8, 275.8,
472, 460, 440, 78.7, 75.7, 71.1, 120.1, 318, 304, 350, 400, 79, 120.3, 95.1, 351,
145, 301 and *121*

The mean of disp is *230.721875* while the standard deviation is: *123.938693831382*.
The most frequent value in disp is 275.8, but let us check out the frequency
table too:

71.1	75.7	78.7	79	95.1	108	120.1	120.3
1	1	1	1	1	1	1	1

121	140.8	145	146.7	160	167.6	225	258
1	1	1	1	2	2	1	1

275.8	301	304	318	350	351	360	400
3	1	1	1	1	1	2	1

440	460	472
1	1	1

Tables are boring, let us show the same with a **histogram**:

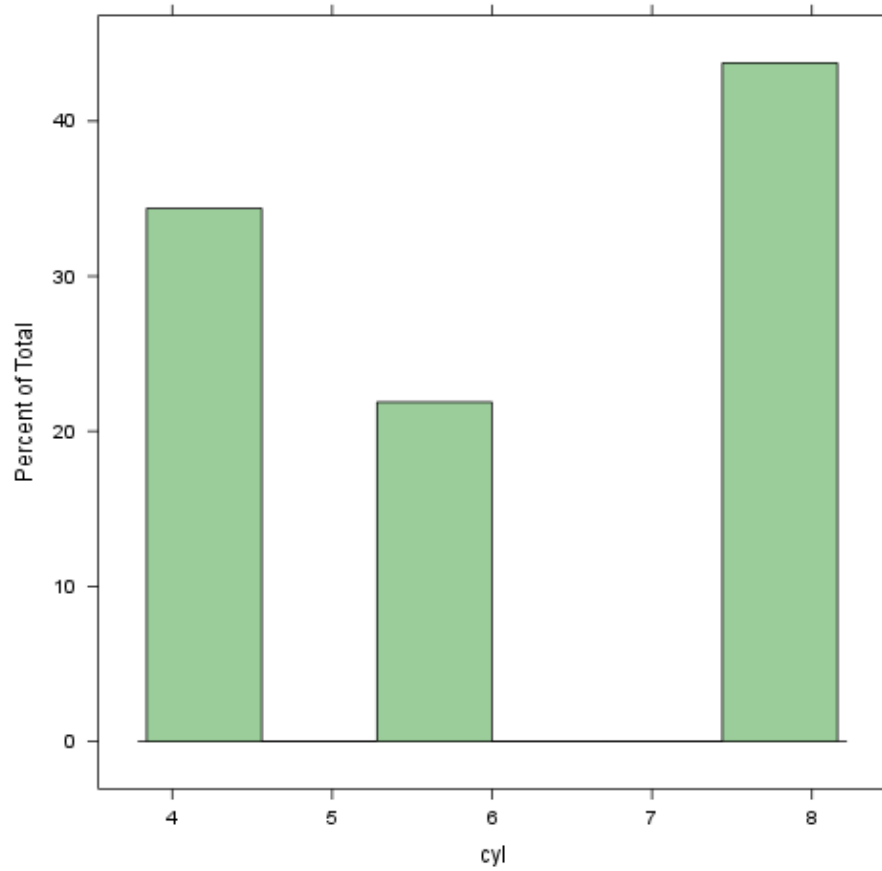


Figure 2:

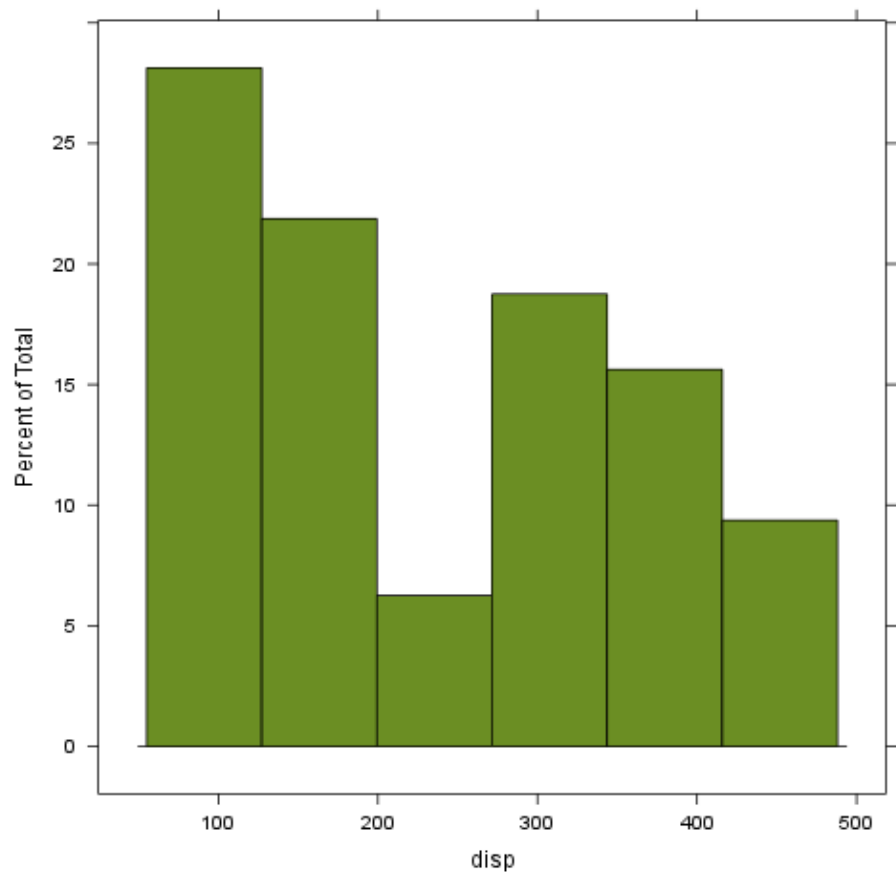


Figure 3:

hp

We found the folloing values here:

110, 110, 93, 110, 175, 105, 245, 62, 95, 123, 123, 180, 180, 180, 205, 215, 230, 66, 52, 65, 97, 150, 150, 245, 175, 66, 91, 113, 264, 175, 335 and 109

The mean of hp is *146.6875* while the standard deviation is: *68.5628684893206*. The most frequent value in hp is 110, but let us check out the frequency table too:

52	62	65	66	91	93	95	97	105
1	1	1	2	1	1	1	1	1

109	110	113	123	150	175	180	205
1	3	1	2	2	3	3	1

215	230	245	264	335
1	1	2	1	1

Tables are boring, let us show the same with a **histogram**:

drat

We found the folloing values here:

3.9, 3.9, 3.85, 3.08, 3.15, 2.76, 3.21, 3.69, 3.92, 3.92, 3.92, 3.07, 3.07, 3.07, 2.93, 3, 3.23, 4.08, 4.93, 4.22, 3.7, 2.76, 3.15, 3.73, 3.08, 4.08, 4.43, 3.77, 4.22, 3.62, 3.54 and 4.11

The mean of drat is *3.5965625* while the standard deviation is: *0.534678736070971*. The most frequent value in drat is 3.07, but let us check out the frequency table too:

2.76	2.93	3	3.07	3.08	3.15	3.21	3.23
2	1	1	3	2	2	1	1

3.54	3.62	3.69	3.7	3.73	3.77	3.85	3.9
1	1	1	1	1	1	1	2

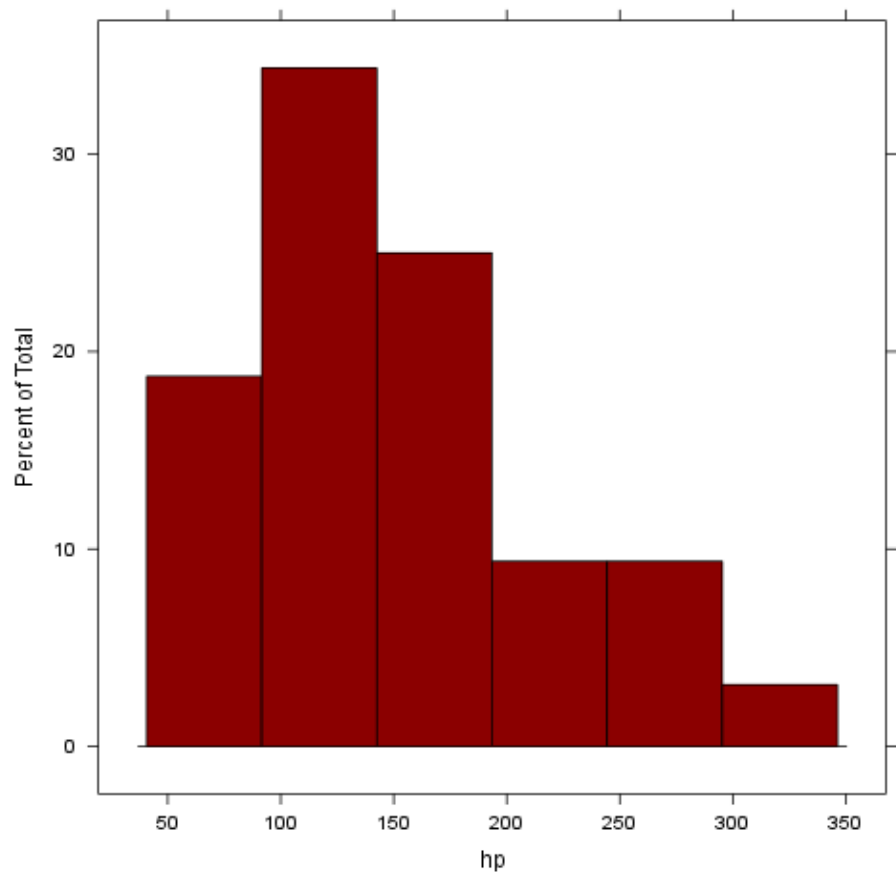


Figure 4:

3.92	4.08	4.11	4.22	4.43	4.93
3	2	1	2	1	1

Tables are boring, let us show the same with a **histogram**:

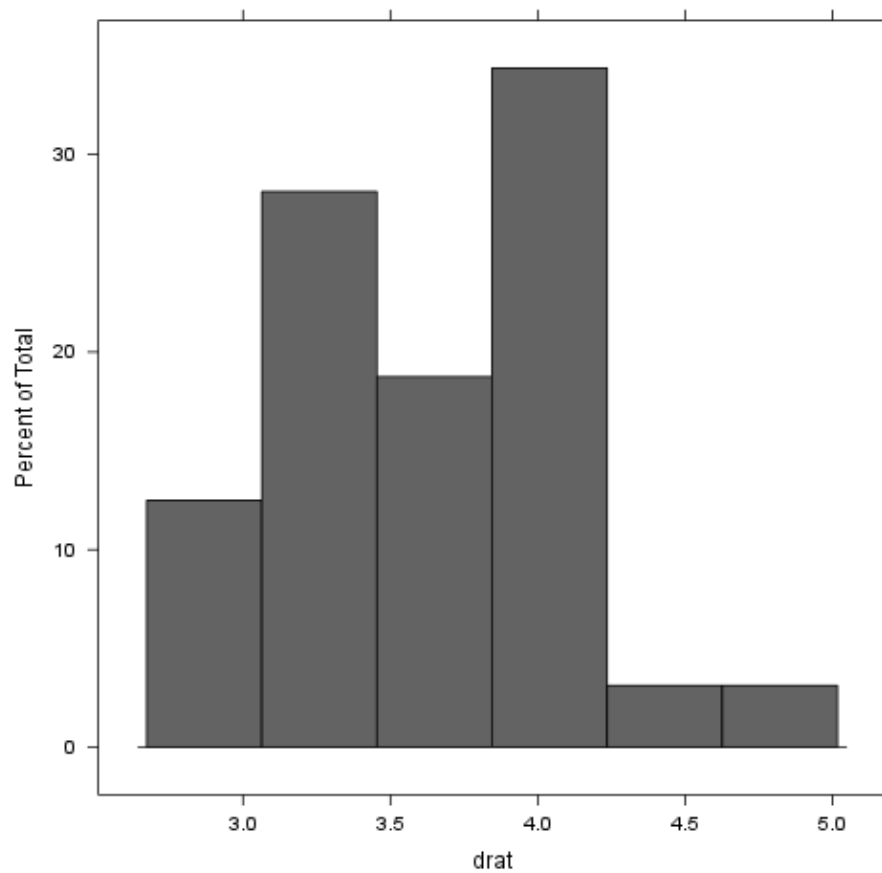


Figure 5:

wt

We found the folloing values here:

2.62, 2.875, 2.32, 3.215, 3.44, 3.46, 3.57, 3.19, 3.15, 3.44, 3.44, 4.07, 3.73, 3.78, 5.25, 5.424, 5.345, 2.2, 1.615, 1.835, 2.465, 3.52, 3.435, 3.84, 3.845, 1.935, 2.14, 1.513, 3.17, 2.77, 3.57 and 2.78

The mean of wt is *3.21725* while the standard deviation is: *0.978457442989697*.
The most frequent value in wt is 3.44, but let us check out the frequency table too:

1.513	1.615	1.835	1.935	2.14	2.2	2.32
1	1	1	1	1	1	1

2.465	2.62	2.77	2.78	2.875	3.15	3.17
1	1	1	1	1	1	1

3.19	3.215	3.435	3.44	3.46	3.52	3.57
1	1	1	3	1	1	2

3.73	3.78	3.84	3.845	4.07	5.25
1	1	1	1	1	1

5.345	5.424
1	1

Tables are boring, let us show the same with a **histogram**:

qsec

We found the folloing values here:

16.46, 17.02, 18.61, 19.44, 17.02, 20.22, 15.84, 20, 22.9, 18.3, 18.9, 17.4, 17.6, 18, 17.98, 17.82, 17.42, 19.47, 18.52, 19.9, 20.01, 16.87, 17.3, 15.41, 17.05, 18.9, 16.7, 16.9, 14.5, 15.5, 14.6 and *18.6*

The mean of qsec is *17.84875* while the standard deviation is: *1.78694323609684*.
The most frequent value in qsec is 17.02, but let us check out the frequency table too:

14.5	14.6	15.41	15.5	15.84	16.46	16.7
1	1	1	1	1	1	1

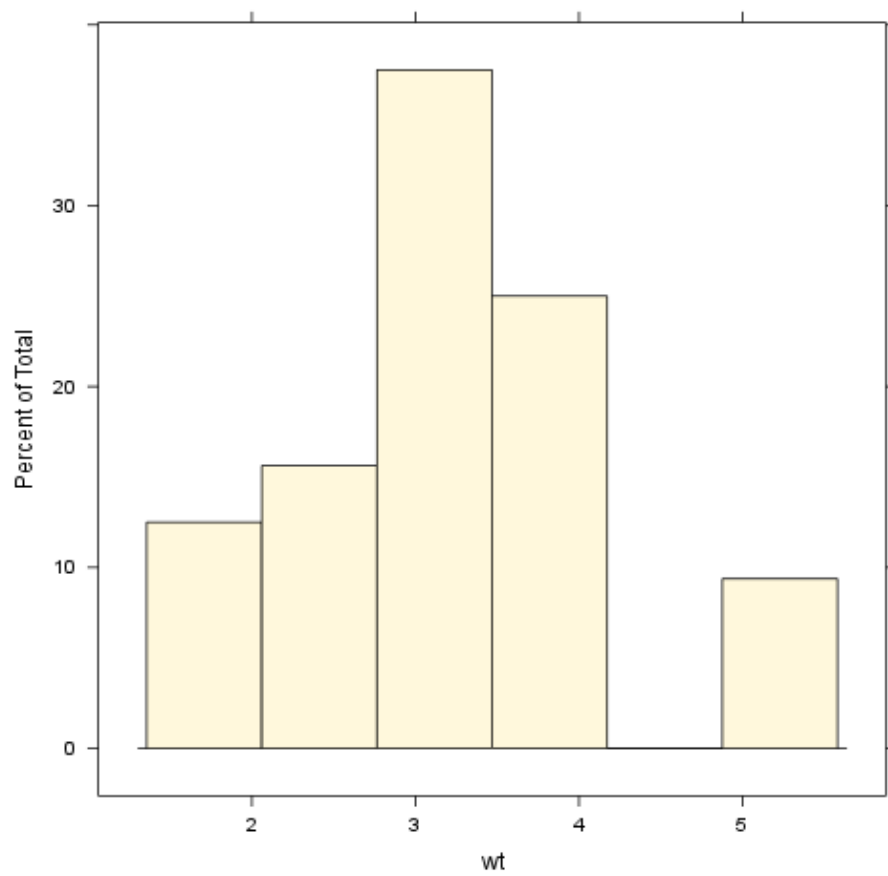


Figure 6:

16.87	16.9	17.02	17.05	17.3	17.4	17.42
1	1	2	1	1	1	1

17.6	17.82	17.98	18	18.3	18.52	18.6
1	1	1	1	1	1	1

18.61	18.9	19.44	19.47	19.9	20	20.01
1	2	1	1	1	1	1

20.22	22.9
1	1

Tables are boring, let us show the same with a **histogram**:

vs

We found the folloing values here:

0, 0, 1, 1, 0, 1, 0, 1, 1, 1, 1, 0, 0, 0, 0, 0, 1, 1, 1, 1, 0, 0, 0, 0, 1, 0, 1, 0, 0, 0
and *1*

The mean of vs is *0.4375* while the standard deviation is: *0.504016128774185*.
The most frequent value in vs is 0, but let us check out the frequency table too:

0	1
18	14

Tables are boring, let us show the same with a **histogram**:

am

We found the folloing values here:

1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0, 1, 1, 1, 1, 1, 1
and *1*

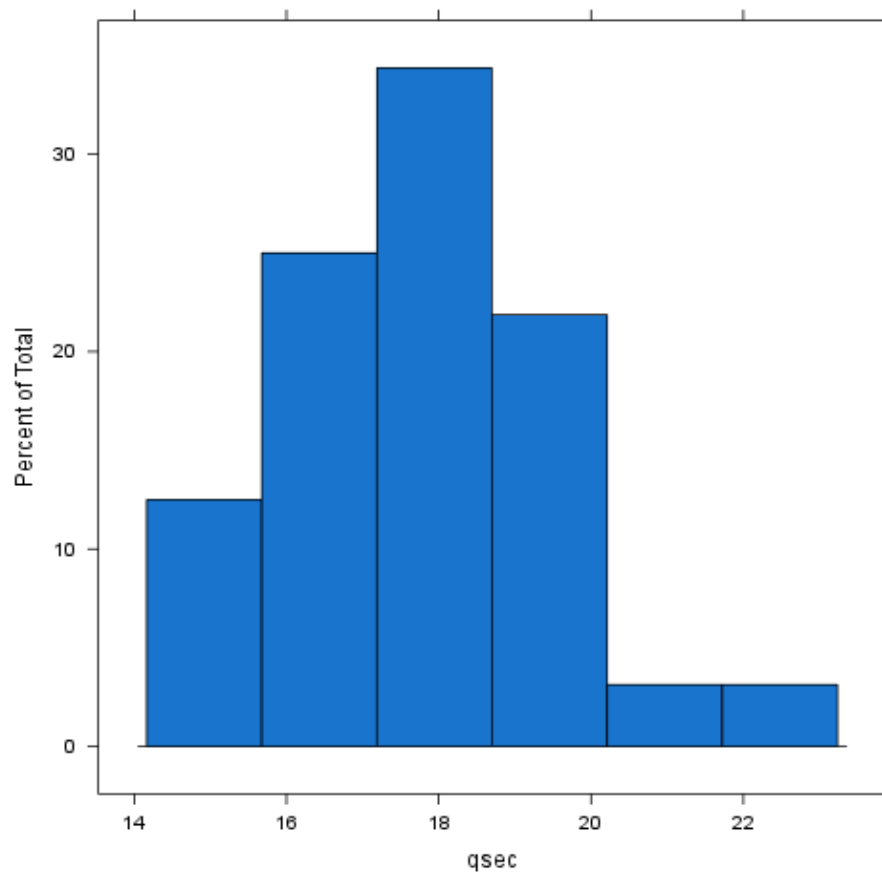


Figure 7:

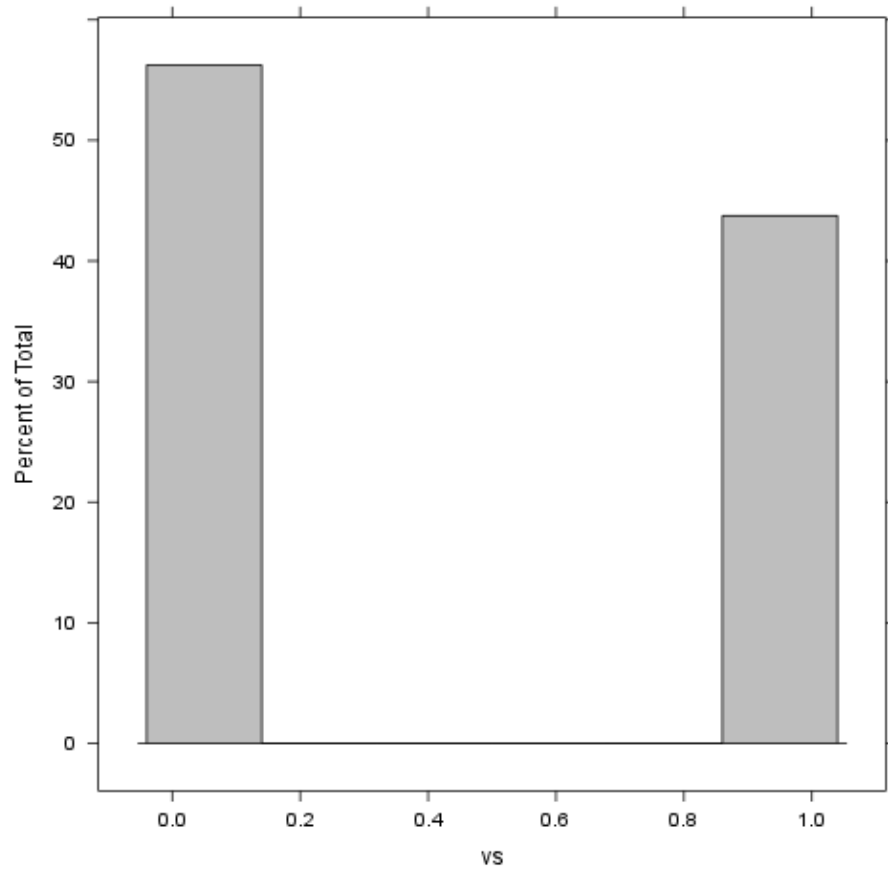


Figure 8:

The mean of `am` is *0.40625* while the standard deviation is: *0.498990917235846*. The most frequent value in `am` is 0, but let us check out the frequency table too:

0	1
19	13

Tables are boring, let us show the same with a **histogram**:

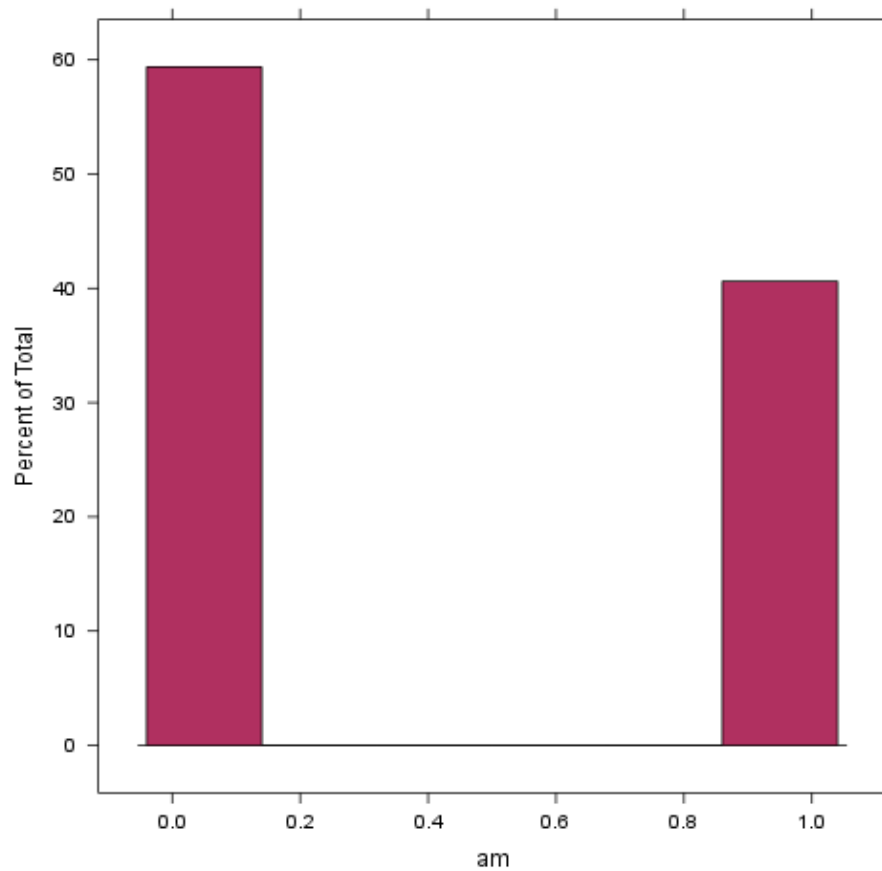


Figure 9:

gear

We found the folloing values here:

4, 4, 4, 3, 3, 3, 3, 4, 4, 4, 4, 3, 3, 3, 3, 3, 3, 4, 4, 4, 3, 3, 3, 3, 4, 5, 5, 5, 5, 5 and 4

The mean of gear is 3.6875 while the standard deviation is: 0.737804065256947 . The most frequent value in gear is 3, but let us check out the frequency table too:

3	4	5
15	12	5

Tables are boring, let us show the same with a **histogram**:

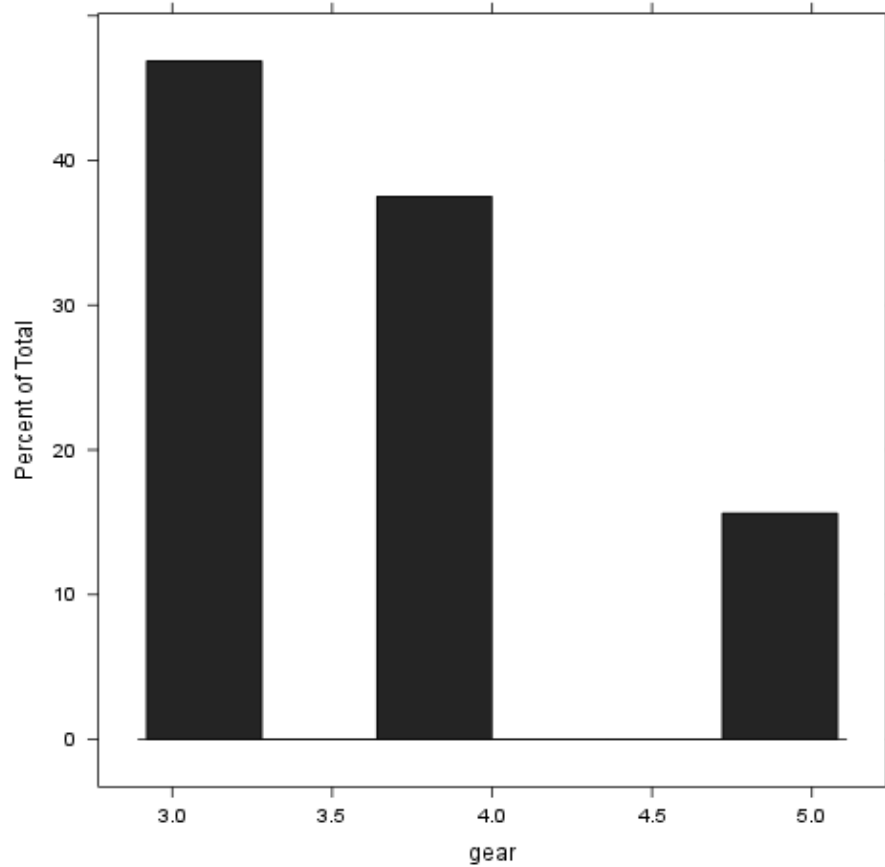


Figure 10:

carb

We found the folloing values here:

4, 4, 1, 1, 2, 1, 4, 2, 2, 4, 4, 3, 3, 3, 4, 4, 4, 1, 2, 1, 1, 2, 2, 4, 2, 1, 2, 2, 4, 6, 8
and 2

The mean of carb is *2.8125* while the standard deviation is: *1.61519997763185*.
The most frequent value in carb is 2, but let us check out the frequency table
too:

1	2	3	4	6	8
7	10	3	10	1	1

Tables are boring, let us show the same with a **histogram**:

Correlation

And here goes a correlation table:

	mpg	cyl	disp	hp	drat	wt	qsec
mpg	1.000	-0.852	-0.848	-0.776	0.681	-0.868	0.419
cyl	-0.852	1.000	0.902	0.832	-0.700	0.782	-0.591
disp	-0.848	0.902	1.000	0.791	-0.710	0.888	-0.434
hp	-0.776	0.832	0.791	1.000	-0.449	0.659	-0.708
drat	0.681	-0.700	-0.710	-0.449	1.000	-0.712	0.091
wt	-0.868	0.782	0.888	0.659	-0.712	1.000	-0.175
qsec	0.419	-0.591	-0.434	-0.708	0.091	-0.175	1.000
vs	0.664	-0.811	-0.710	-0.723	0.440	-0.555	0.745
am	0.600	-0.523	-0.591	-0.243	0.713	-0.692	-0.230
gear	0.480	-0.493	-0.556	-0.126	0.700	-0.583	-0.213
carb	-0.551	0.527	0.395	0.750	-0.091	0.428	-0.656

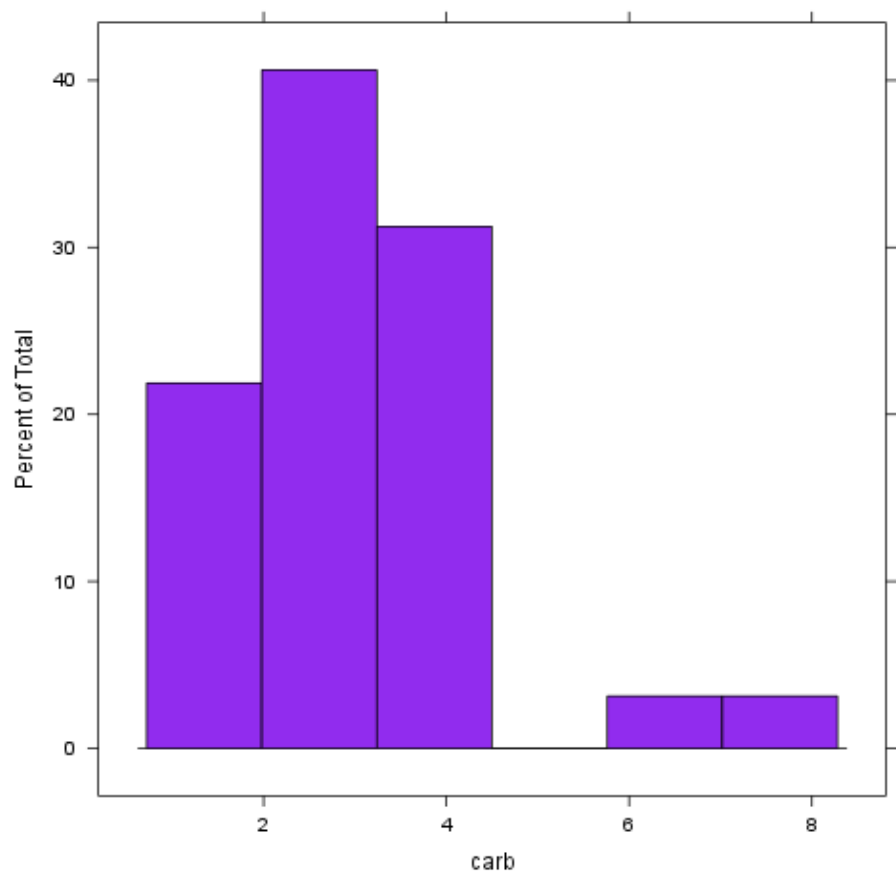


Figure 11:

	vs	am	gear	carb
mpg	0.664	0.600	0.480	-0.551
cyl	-0.811	-0.523	-0.493	0.527
disp	-0.710	-0.591	-0.556	0.395
hp	-0.723	-0.243	-0.126	0.750
drat	0.440	0.713	0.700	-0.091
wt	-0.555	-0.692	-0.583	0.428
qsec	0.745	-0.230	-0.213	-0.656
vs	1.000	0.168	0.206	-0.570
am	0.168	1.000	0.794	0.058
gear	0.206	0.794	1.000	0.274
carb	-0.570	0.058	0.274	1.000

And the same on a graph:

Yeah, that latter took a while to render in an image file :)

That's not a **pander** issue.

Some models

Okay, let us find out how **weight** affects other variables:

mpg

A simple linear model: `mtcars$wt ~ mtcars$mpg`

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	6.0e+00	3.1e-01	2.0e+01	1.2e-18
Independent	-1.4e-01	1.5e-02	-9.6e+00	1.3e-10

Table 1: Fitting linear model: `mtcars$wt ~ Independent`

cyl

A simple linear model: `mtcars$wt ~ mtcars$cyl`

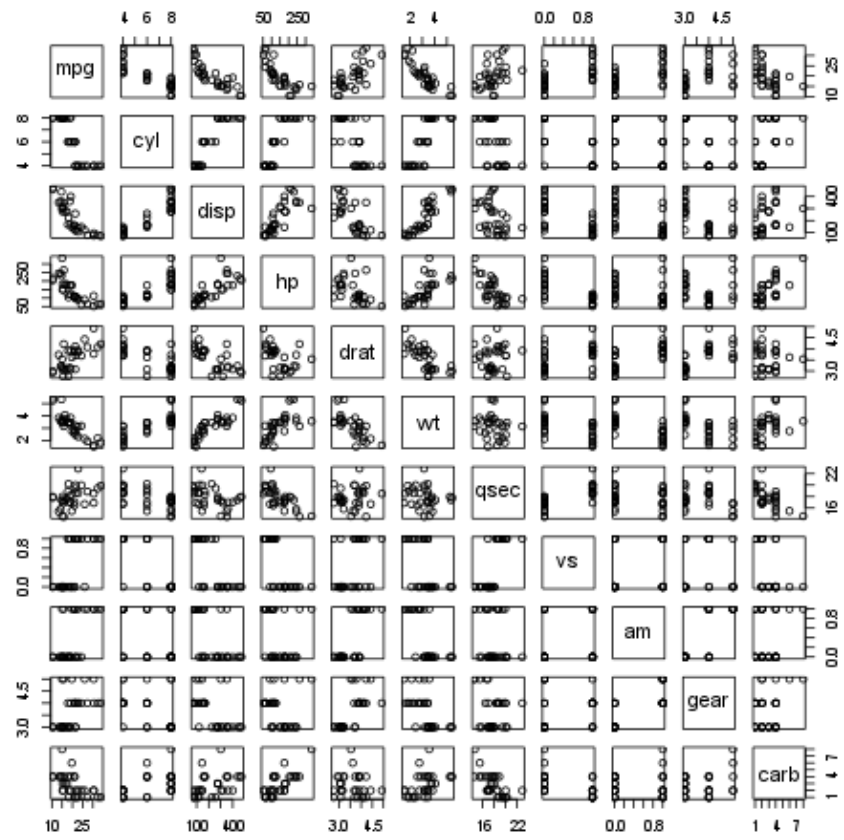


Figure 12:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	5.6e-01	4.0e-01	1.4e+00	1.7e-01
Independent	4.3e-01	6.2e-02	6.9e+00	1.2e-07

Table 2: Fitting linear model: `mtcars$wt ~ Independent`

disp

A simple linear model: `mtcars$wt ~ mtcars$disp`

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	1.6e+00	1.7e-01	9.2e+00	2.7e-10
Independent	7.0e-03	6.6e-04	1.1e+01	1.2e-11

Table 3: Fitting linear model: `mtcars$wt ~ Independent`

hp

A simple linear model: `mtcars$wt ~ mtcars$hp`

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	1.8e+00	3.2e-01	5.8e+00	2.4e-06
Independent	9.4e-03	2.0e-03	4.8e+00	4.1e-05

Table 4: Fitting linear model: `mtcars$wt ~ Independent`

drat

A simple linear model: `mtcars$wt ~ mtcars$drat`

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	7.9e+00	8.5e-01	9.3e+00	2.5e-10
Independent	-1.3e+00	2.3e-01	-5.6e+00	4.8e-06

Table 5: Fitting linear model: `mtcars$wt ~ Independent`

qsec

A simple linear model: `mtcars$wt ~ mtcars$qsec`

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	4.9248	1.7654	2.7896	0.0091
Independent	-0.0957	0.0984	-0.9719	0.3389

Table 6: Fitting linear model: `mtcars$wt ~ Independent`

vs

A simple linear model: `mtcars$wt ~ mtcars$vs`

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	3.7e+00	2.0e-01	1.9e+01	3.2e-18
Independent	-1.1e+00	2.9e-01	-3.7e+00	9.8e-04

Table 7: Fitting linear model: `mtcars$wt ~ Independent`

am

A simple linear model: `mtcars$wt ~ mtcars$am`

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	3.8e+00	1.6e-01	2.3e+01	1.5e-20
Independent	-1.4e+00	2.6e-01	-5.3e+00	1.1e-05

Table 8: Fitting linear model: `mtcars$wt ~ Independent`

gear

A simple linear model: `mtcars$wt ~ mtcars$gear`

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	6.1e+00	7.4e-01	8.2e+00	3.6e-09
Independent	-7.7e-01	2.0e-01	-3.9e+00	4.6e-04

Table 9: Fitting linear model: `mtcars$wt ~ Independent`

carb

A simple linear model: `mtcars$wt ~ mtcars$carb`

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	2.5e+00	3.2e-01	7.7e+00	1.4e-08
Independent	2.6e-01	1.0e-01	2.6e+00	1.5e-02

Table 10: Fitting linear model: `mtcars$wt ~ Independent`

This report was generated with [R](#) (2.15.0) and [pander](#) (0.1) in 17.425 sec on x86_64-unknown-linux-gnu platform.