Figures

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Figure 1 : Distribution des variables quantitatives

```
      mpg          cylinders      cubicinches          hp          weightlbs
 Min.   :10.00   Min.   :3.00   Min.   : 68.0   Min.   : 46.0   Min.   :1613
 1st Qu.:16.90   1st Qu.:4.00   1st Qu.:101.0   1st Qu.: 75.0   1st Qu.:2246
 Median :22.00   Median :6.00   Median :156.0   Median : 95.0   Median :2835
 Mean   :23.14   Mean   :5.59   Mean   :201.1   Mean   :106.4   Mean   :3005
 3rd Qu.:28.80   3rd Qu.:8.00   3rd Qu.:302.0   3rd Qu.:138.0   3rd Qu.:3664
 Max.   :46.60   Max.   :8.00   Max.   :455.0   Max.   :230.0   Max.   :4997
   time.to.60         year
 Min.   : 8.00   Min.   :1971
 1st Qu.:14.00   1st Qu.:1974
 Median :16.00   Median :1977
 Mean   :15.55   Mean   :1977
 3rd Qu.:17.00   3rd Qu.:1980
 Max.   :25.00   Max.   :1983
```

A matrix: 11 × 7 of type dbl

	mpg	cylinders	cubicinches	hp	weightlbs	time.to.60	year
0%	10.0	3	68	46	1613	8	1971
10%	14.0	4	90	65	1985	12	1972
20%	16.0	4	98	72	2155	13	1973
30%	18.0	4	112	81	2372	14	1974
40%	19.8	4	122	88	2634	15	1976
50%	22.0	6	156	95	2835	16	1977
60%	24.3	6	225	103	3150	16	1978
70%	27.0	6	250	120	3459	17	1979
80%	30.0	8	318	145	3850	18	1980
90%	34.0	8	351	165	4295	19	1982
100%	46.6	8	455	230	4997	25	1983

Figure 2 : Digramme en boite des variables quantitative

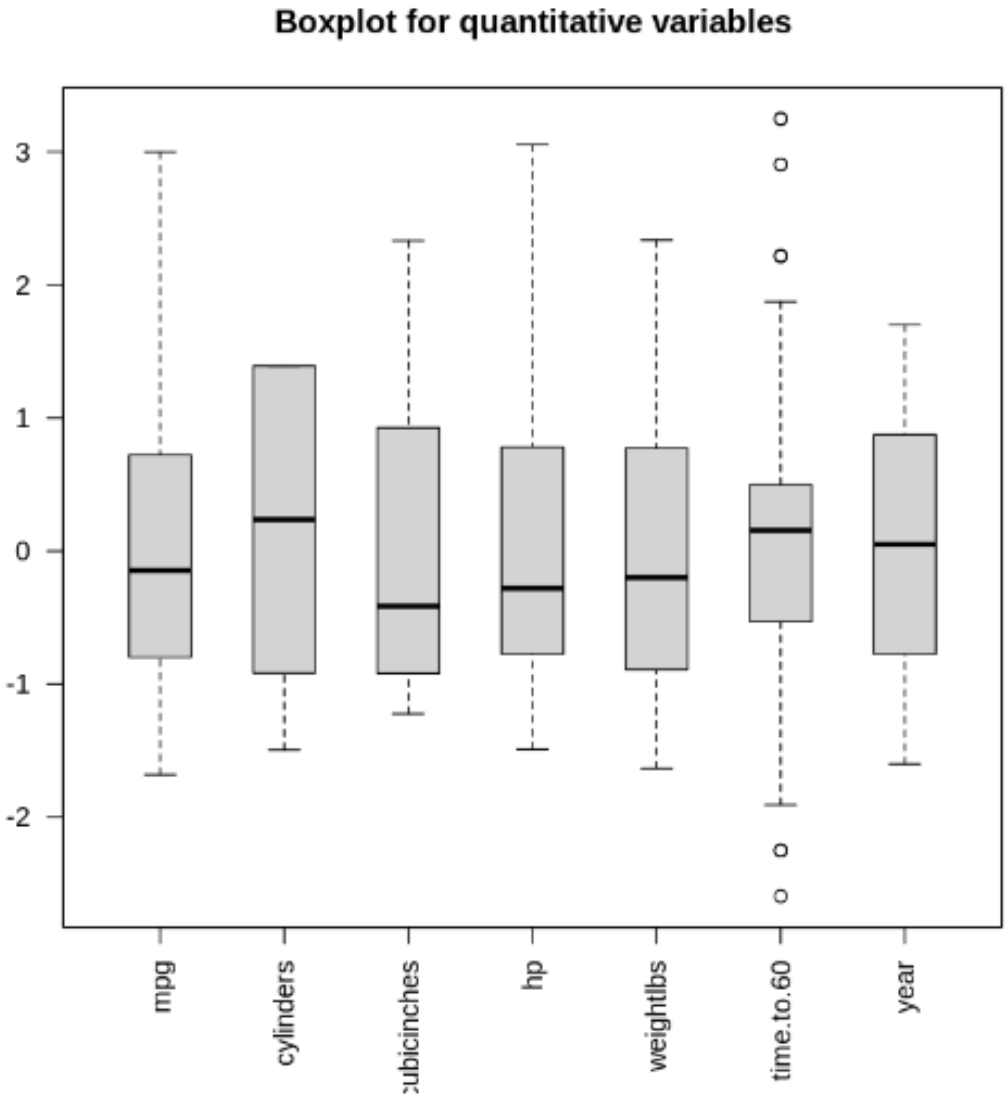

Figure 3 : Coefficient d'asymétrique des variables quantitatives

```
[1] "Skewness for mpg : 0.595694143151173"
[1] "Skewness for cylinders : 0.389719071943811"
[1] "Skewness for cubicinches : 0.612005382041998"
[1] "Skewness for hp : 0.96907938884013"
[1] "Skewness for weightlbs : 0.418800780253253"
[1] "Skewness for time.to.60 : 0.2967212251421"
[1] "Skewness for year : 0.0430766402113348"
```

Figure 4 : Valeurs aberrantes time.to.60

	mpg	cylinders	cubicinches	hp	weightlbs	time.to.60	year	brand
8	14.0	8	440	215	4312	9	1971	US.
52	27.2	4	141	71	3190	25	1980	Europe.
53	14.0	8	340	160	3609	8	1971	US.
107	43.4	4	90	48	2335	24	1981	Europe.
165	23.0	4	97	54	2254	24	1973	Europe.
198	43.1	4	90	48	1985	22	1979	Europe.
203	23.9	8	260	90	3420	22	1980	US.
206	15.0	8	390	190	3850	9	1971	US.
236	44.0	4	97	52	2130	25	1983	Europe.
245	14.0	8	454	220	4354	9	1971	US.
248	44.3	4	90	48	2085	22	1981	Europe.

Figure 5 : Valeurs de la variable Cylindres

	Cylinders	Frequency	Percentage.Freq
1	3	2	0.7662835
2	4	125	47.8927203
3	5	3	1.1494253
4	6	55	21.0727969
5	8	76	29.1187739

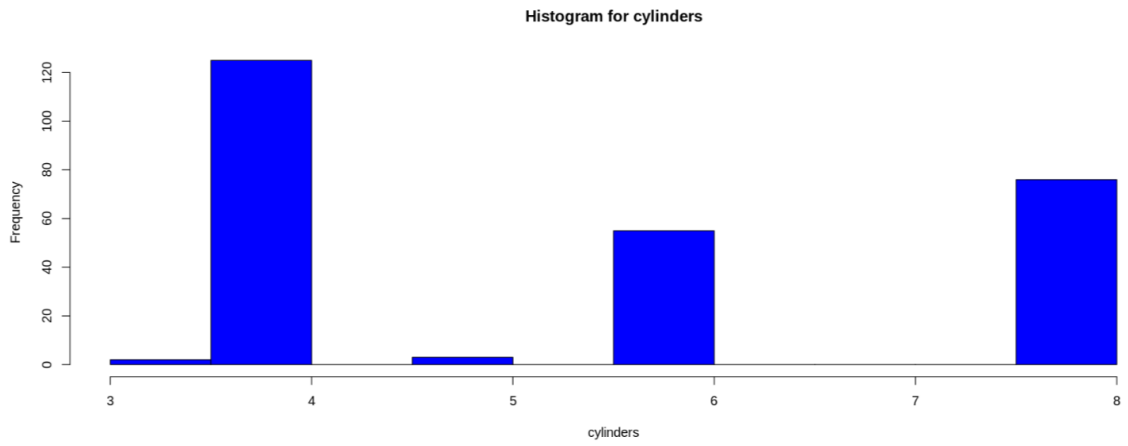

Figure 6 : Distribution de la variable brand

Brand	Frequency	Percentage.Freq
Europe.	48	18.39080
Japan.	51	19.54023
US.	162	62.06897

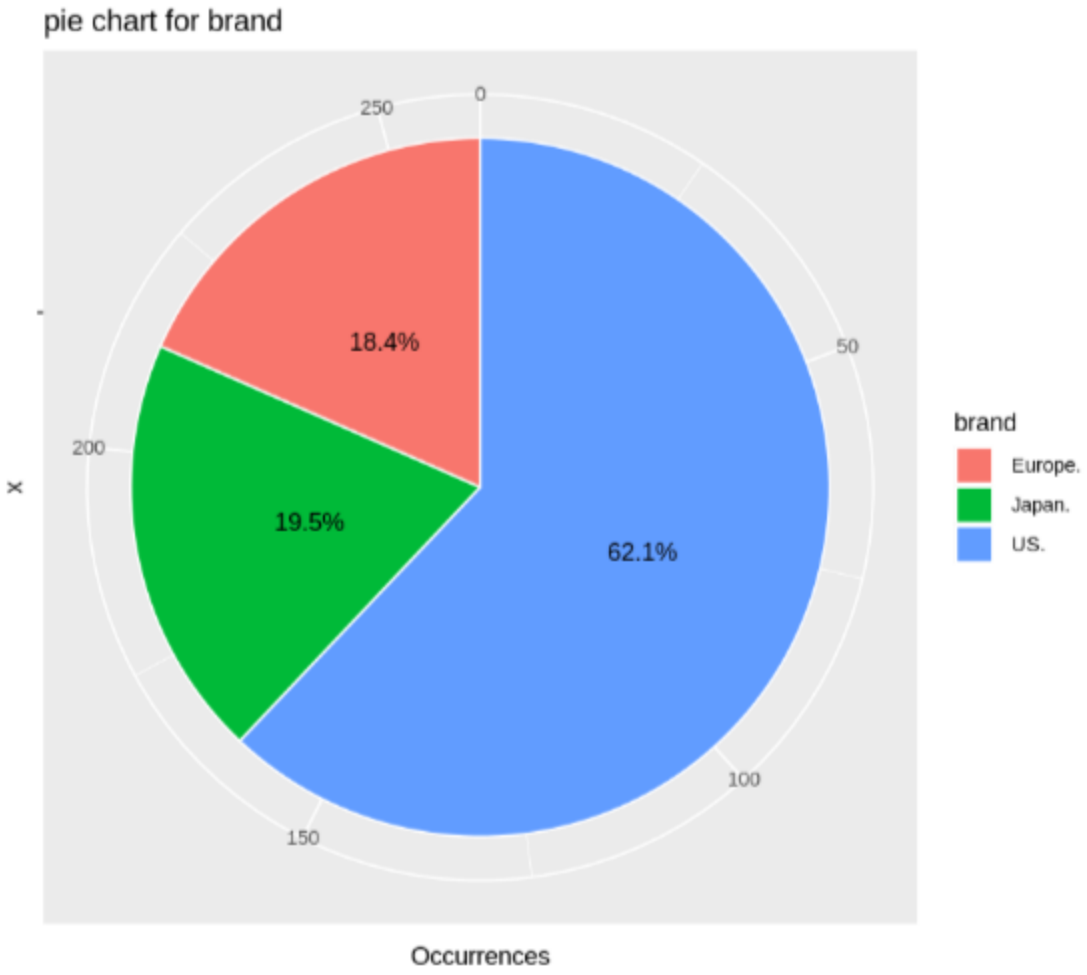

Figure 7 : Valeurs manquantes

```
[11] #get missing values
     missing_counts <- apply(data, 2, function(x) sum(is.na(x)))
     print(missing_counts)
```

```
             mpg   cylinders cubicinches          hp   weightlbs  time.to.60
               0           0           0           0           0           0
            year       brand
               0           0
```