

## ASSIGNMENT-4

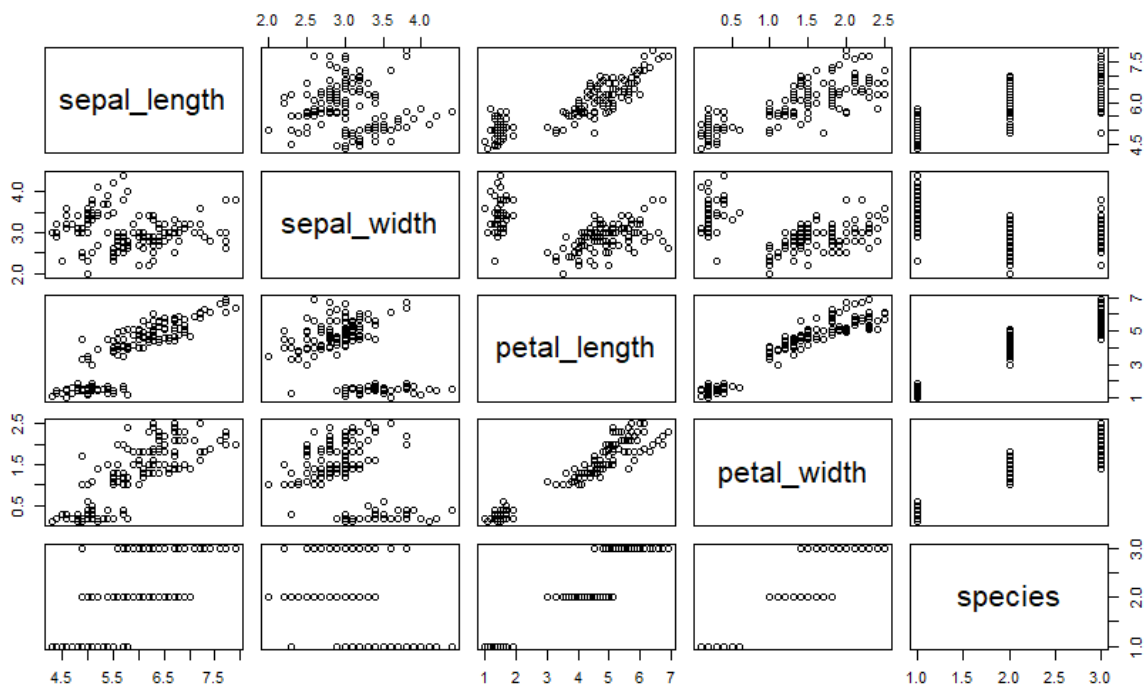
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```
sepal_length  sepal_width  petal_length  petal_width  species
Min.   :4.300   Min.   :2.000   Min.   :1.000   Min.   :0.100   Iris-setosa   :50
1st Qu.:5.100   1st Qu.:2.800   1st Qu.:1.600   1st Qu.:0.300   Iris-versicolor:50
Median :5.800   Median :3.000   Median :4.350   Median :1.300   Iris-virginica :50
Mean   :5.843   Mean   :3.054   Mean   :3.759   Mean   :1.199
3rd Qu.:6.400   3rd Qu.:3.300   3rd Qu.:5.100   3rd Qu.:1.800
Max.   :7.900   Max.   :4.400   Max.   :6.900   Max.   :2.500
```



```
> summary(fit)
```

```
call:
lm(formula = data$petal_length ~ data$petal_width)
```

Residuals:

	Min	1Q	Median	3Q	Max
	-1.33270	-0.30440	-0.02775	0.25531	1.39319

Coefficients:

	Estimate	Std. Error	t value	Pr(> t )
(Intercept)	1.09057	0.07294	14.95	<2e-16 ***
data\$petal_width	2.22589	0.05138	43.32	<2e-16 ***

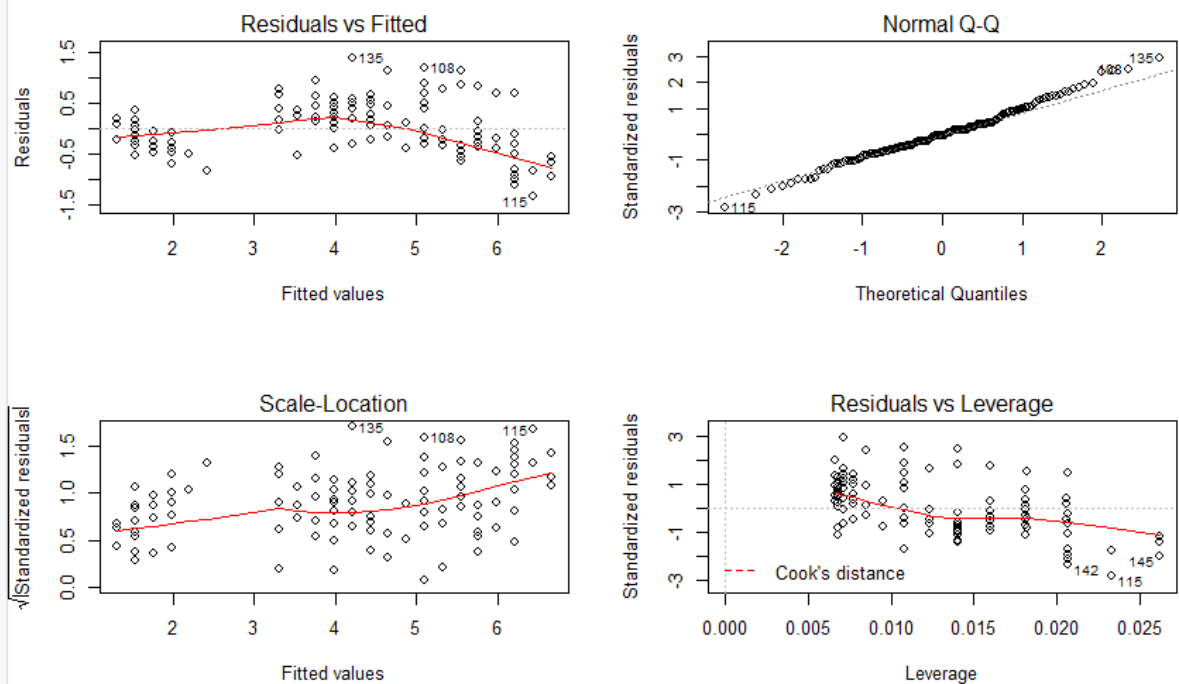
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signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.4787 on 148 degrees of freedom

Multiple R-squared: 0.9269, Adjusted R-squared: 0.9264

F-statistic: 1877 on 1 and 148 DF, p-value: < 2.2e-16



Residuals:

	Min	1Q	Median	3Q	Max
	-1.01539	-0.16764	-0.03607	0.11271	0.68603

Coefficients:

	Estimate	Std. Error	t value	Pr(> t )
(Intercept)	-1.389e+00	3.390e-02	-40.970	<2e-16 ***
data\$sex	6.479e-02	7.118e-03	9.101	<2e-16 ***
data\$bp	1.030e-04	2.630e-04	0.392	0.6954
data\$dbp	-7.374e-06	4.562e-04	-0.016	0.9871
data\$chl	-1.229e-04	8.258e-05	-1.488	0.1368
data\$age	-1.121e-03	4.625e-04	-2.425	0.0154 *
data\$bmi	5.784e-02	9.287e-04	62.285	<2e-16 ***

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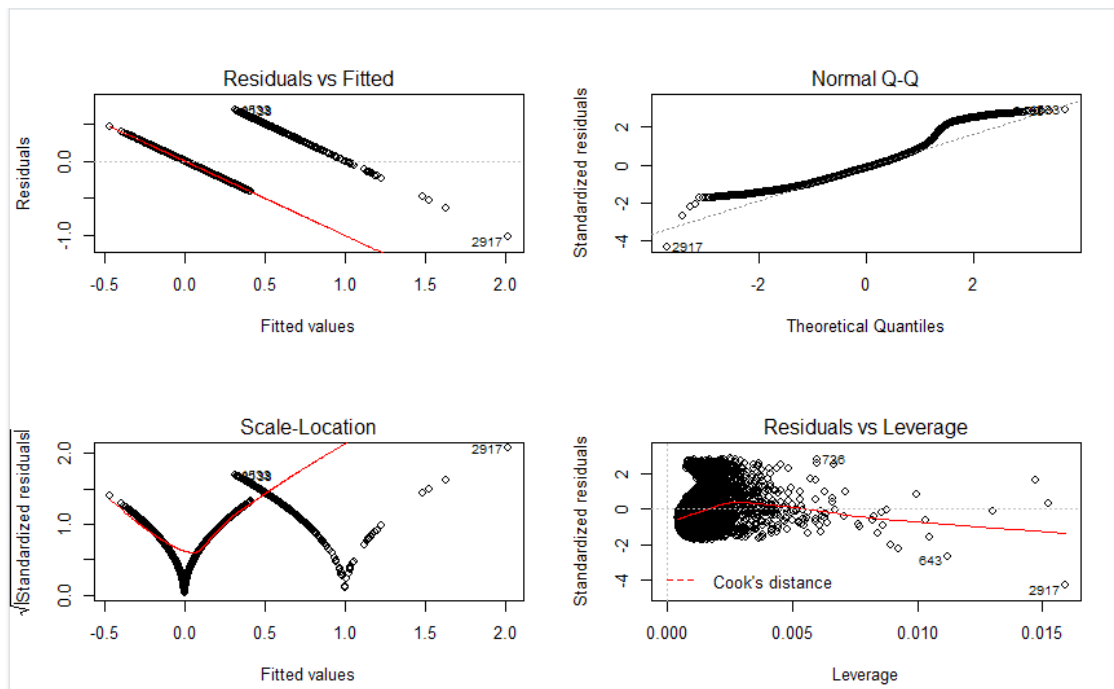
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

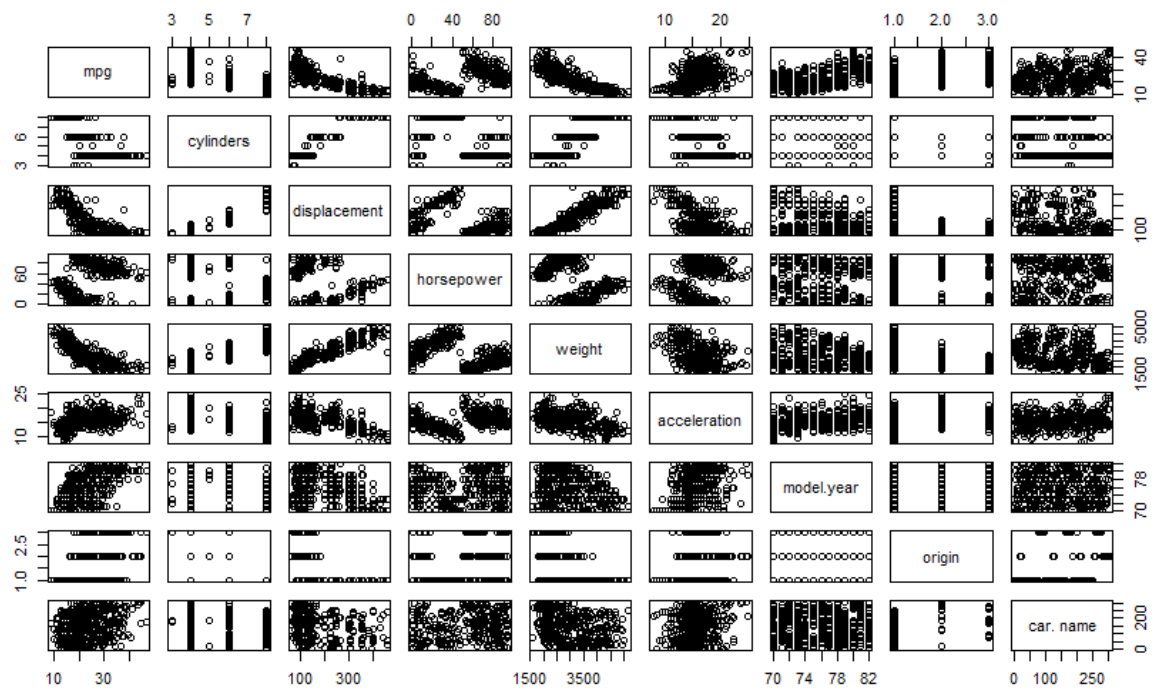
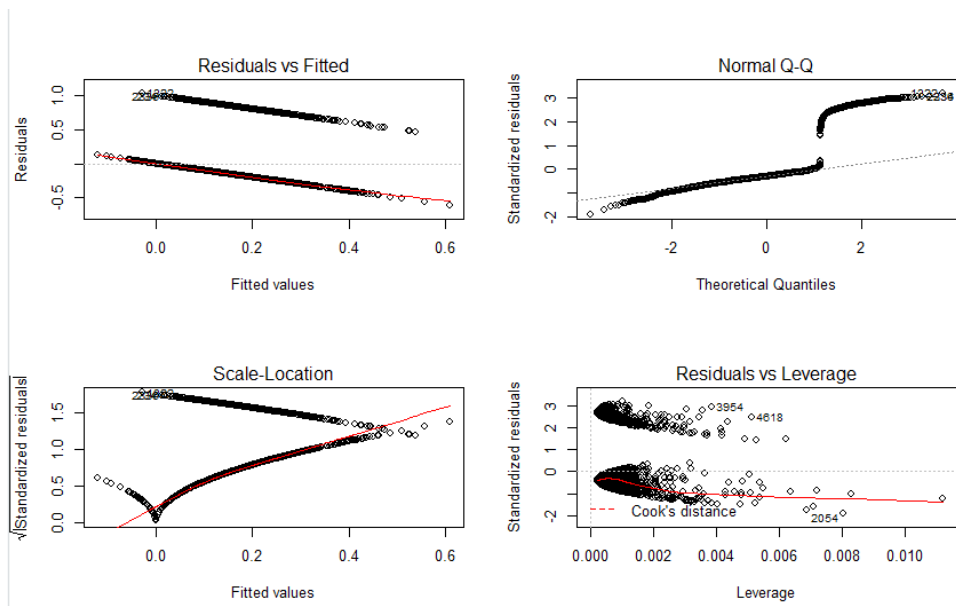
Residual standard error: 0.2382 on 4651 degrees of freedom

(32 observations deleted due to missingness)

Multiple R-squared: 0.4922, Adjusted R-squared: 0.4915

F-statistic: 751.2 on 6 and 4651 DF, p-value: < 2.2e-16





```
> summary(data)
```

mpg	cylinders	displacement	horsepower	weight	acceleration	model.year
Min. : 9.00	Min. :3.000	Min. : 68.0	150.0 : 22	Min. :1613	Min. : 8.00	Min. :70.00
1st Qu.:17.50	1st Qu.:4.000	1st Qu.:104.2	90.00 : 20	1st Qu.:2224	1st Qu.:13.82	1st Qu.:73.00
Median :23.00	Median :4.000	Median :148.5	88.00 : 19	Median :2804	Median :15.50	Median :76.00
Mean :23.51	Mean :5.455	Mean :193.4	110.0 : 18	Mean :2970	Mean :15.57	Mean :76.01
3rd Qu.:29.00	3rd Qu.:8.000	3rd Qu.:262.0	100.0 : 17	3rd Qu.:3608	3rd Qu.:17.18	3rd Qu.:79.00
Max. :46.60	Max. :8.000	Max. :455.0	75.00 : 14	Max. :5140	Max. :24.80	Max. :82.00

origin	car. name
Min. :1.000	ford pinto : 6
1st Qu.:1.000	amc matador : 5
Median :1.000	ford maverick : 5
Mean :1.573	toyota corolla: 5
3rd Qu.:2.000	amc gremlin : 4
Max. :3.000	amc hornet : 4
	(other) :369

```
Call:
lm(formula = `data$horsepower` ~ data$cylinders + data$displacement +
    data$weight + data$model.year)
```

```
Residuals:
    Min       1Q   Median       3Q      Max
-71.033  -6.323   3.624  13.999   68.302
```

```
Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  160.507707  29.361062   5.467 8.17e-08 ***
data$cylinders -15.329261   2.380718  -6.439 3.51e-10 ***
data$displacement  0.144583   0.048605   2.975 0.00311 **
data$weight -0.006605   0.004142  -1.595 0.11160
data$model.year -0.445283   0.366758  -1.214 0.22544
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
Residual standard error: 24.93 on 393 degrees of freedom
Multiple R-squared:  0.3132,    Adjusted R-squared:  0.3062
F-statistic: 44.79 on 4 and 393 DF,  p-value: < 2.2e-16
```