STATISTICAL ANALYSIS AND DOCUMENT MINING

CM TP TD

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TP TD

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STATISTICAL ANALYSIS AND DOCUMENT MINING

TP

- ***R*** programming language
- Groups of **three** students
- Four or five TPs with reports to be uploaded on TEIDE
- You should write them in **english** and using **.rmd**

Final grade

Half the average of scores on each TP report

Half the score at final exam

Presence in CM, TD, TP is required and evaluated

```
Call:
lm(formula = sales ~ TV + radio + newspaper, data = adv)

Residuals:
    Min      1Q  Median      3Q     Max
-8.8277 -0.8908  0.2418  1.1893  2.8292

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  2.938889   0.311908   9.422   <2e-16 ***
TV           0.045765   0.001395  32.809   <2e-16 ***
radio        0.188530   0.008611  21.893   <2e-16 ***
newspaper   -0.001037   0.005871  -0.177     0.86
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 1.686 on 196 degrees of freedom
Multiple R-squared:  0.8972,    Adjusted R-squared:  0.8956
F-statistic: 570.3 on 3 and 196 DF,  p-value: < 2.2e-16
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```
Call:
lm(formula = sales ~ newspaper, data = adv)

Residuals:
     Min       1Q   Median       3Q      Max
-11.2272  -3.3873  -0.8392   3.5059  12.7751

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept) 12.35141    0.62142   19.88  < 2e-16 ***
newspaper    0.05469    0.01658    3.30  0.00115 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 5.092 on 198 degrees of freedom
Multiple R-squared:  0.05212,   Adjusted R-squared:  0.04733
F-statistic: 10.89 on 1 and 198 DF,  p-value: 0.001148
```

	TV	radio	newspaper	sales
TV	1.00000000	0.05480866	0.05664787	0.7822244
radio	0.05480866	1.00000000	0.35410375	0.5762226
newspaper	0.05664787	0.35410375	1.00000000	0.2282990
sales	0.78222442	0.57622257	0.22829903	1.0000000

```
Call:
lm(formula = life ~ rpm + brand, data = df)

Residuals:
    Min      1Q  Median      3Q     Max
-5.5527 -1.7868 -0.0016  1.8395  4.9838

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept) 36.98560    3.51038  10.536 7.16e-09 ***
rpm         -0.02661    0.00452  -5.887 1.79e-05 ***
brandB      15.00425    1.35967  11.035 3.59e-09 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 3.039 on 17 degrees of freedom
Multiple R-squared:  0.9003, Adjusted R-squared:  0.8886
F-statistic: 76.75 on 2 and 17 DF,  p-value: 3.086e-09
```

```
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lm(formula = life ~ rpm + brand, data = df)

Residuals:
    Min      1Q  Median      3Q     Max
-5.5527 -1.7868 -0.0016  1.8395  4.9838

Coefficients:
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(Intercept) 36.98560    3.51038  10.536 7.16e-09 ***
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```

```
> contrasts(df$brand)
  2
A 0
B 1
```