Jeux de données CreditBancaire

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# Importation des données

library(broom)

## Warning: package 'broom' was built under R version 4.2.2

library(car)

## Warning: package 'car' was built under R version 4.2.2

## Loading required package: carData

## Warning: package 'carData' was built under R version 4.2.2

df<-read.csv("CreditBancaire.csv")

## Regression du nombre de jours de retards sur les variables Credit et Type

Reg <-lm (Jours~Credit+Type,data = df)  
 Reg

##   
## Call:  
## lm(formula = Jours ~ Credit + Type, data = df)  
##   
## Coefficients:  
## (Intercept) Credit TypeConsommation TypeProduction   
## 8.519e+01 -5.484e-06 -1.486e+01 1.498e+01

### Affichons les résultats détaillés de la regression

summary(Reg)

##   
## Call:  
## lm(formula = Jours ~ Credit + Type, data = df)  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -96.26 -69.22 -49.06 17.29 270.22   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) 8.519e+01 1.275e+01 6.681 1.63e-10 \*\*\*  
## Credit -5.484e-06 1.182e-05 -0.464 0.643   
## TypeConsommation -1.486e+01 1.472e+01 -1.009 0.314   
## TypeProduction 1.498e+01 2.532e+01 0.591 0.555   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 104 on 241 degrees of freedom  
## Multiple R-squared: 0.007512, Adjusted R-squared: -0.004842   
## F-statistic: 0.608 on 3 and 241 DF, p-value: 0.6104

#### Extraction du tableau des coefficients qui inclut aussi les statistiques de Student et les probabilités.

Coeff<- tidy(Reg)  
 Coeff

## # A tibble: 4 x 5  
## term estimate std.error statistic p.value  
## <chr> <dbl> <dbl> <dbl> <dbl>  
## 1 (Intercept) 85.2 12.8 6.68 1.63e-10  
## 2 Credit -0.00000548 0.0000118 -0.464 6.43e- 1  
## 3 TypeConsommation -14.9 14.7 -1.01 3.14e- 1  
## 4 TypeProduction 15.0 25.3 0.591 5.55e- 1

##### Affichage des colonnes des coefficients estimés et les valeurs de la statistique de Student

COEFF<-data.frame(tidy(Reg)$estimate,tidy(Reg)$statistic)  
 COEFF

## tidy.Reg..estimate tidy.Reg..statistic  
## 1 8.519082e+01 6.6809256  
## 2 -5.483559e-06 -0.4637417  
## 3 -1.485726e+01 -1.0090929  
## 4 1.497503e+01 0.5913659

#### La droite de regression:

DroiteReg= 8.519082e+01-5.483559e-06\* Credit -1.485726e+01\* TypeConsommation +1.497503e+01\*TypeProduction

###### Réalisation du graphique de nuage de points

x<-df$Credit  
 x

## [1] 1322368.51 772892.00 147237.74 444891.45 331287.78 657206.26  
## [7] 95312.98 1609308.38 185157.57 1224859.72 518755.01 203873.84  
## [13] 645129.68 59267.56 1228019.53 2173808.75 145025.47 189795.54  
## [19] 389887.46 741108.59 1021122.89 642888.62 10956.78 150856.39  
## [25] 975838.48 716949.82 885307.58 389958.33 49371.53 1074640.22  
## [31] 615946.35 640243.38 1087662.50 1929813.61 406883.18 523413.59  
## [37] 284425.55 1074096.34 625419.26 492127.10 155219.76 566633.20  
## [43] 322457.45 1758655.47 1190288.13 379500.67 1229440.04 931169.54  
## [49] 1008099.58 284426.88 779299.41 2019263.04 1490814.50 604595.68  
## [55] 933566.08 257125.51 1143257.35 136506.13 1086025.24 1328103.66  
## [61] 1382519.26 1190418.90 163863.49 1314240.42 497103.80 176576.72  
## [67] 598327.40 249729.31 347159.06 1358844.38 768975.91 533785.44  
## [73] 1374563.24 563658.40 1422047.25 1287354.24 936768.18 1418028.18  
## [79] 1332073.14 284693.78 1219355.78 1693398.44 546913.78 773778.82  
## [85] 1443476.03 1010013.42 856606.59 879859.95 1374731.67 486496.68  
## [91] 14815.92 558888.91 244017.68 744224.56 788915.17 891709.75  
## [97] 133132.96 314058.98 476582.32 11865.08 1259124.25 394614.05  
## [103] 20757.64 1544085.12 149359.46 1723618.75 574537.23 526360.88  
## [109] 252532.59 843291.15 681067.82 1212600.86 370448.34 697494.69  
## [115] 135847.67 564729.30 1477633.97 1452009.39 840130.53 143282.78  
## [121] 203191.99 2183271.98 151256.65 223094.16 1937659.03 507864.20  
## [127] 473802.47 1122490.12 287286.51 1184727.52 1162541.13 743716.89  
## [133] 1001848.50 1239331.99 172275.84 321814.05 1458119.58 339990.34  
## [139] 862769.73 596331.91 2427191.68 1437121.52 1053298.98 231306.15  
## [145] 783409.94 1726040.61 170640.14 1514400.63 1371746.15 317983.36  
## [151] 2067475.05 446619.97 1311179.36 1449846.00 271160.90 995880.97  
## [157] 2069778.89 873108.20 361023.62 243505.11 679072.98 1504075.88  
## [163] 888543.41 436933.49 696244.41 247566.73 20160.85 518832.09  
## [169] 114150.57 1069756.46 1909053.21 794261.72 23113.63 180658.35  
## [175] 1055869.39 543091.26 1022678.92 84455.27 1351001.49 1562313.28  
## [181] 508188.34 525093.26 1357753.05 1244164.80 337278.71 627636.35  
## [187] 1187827.51 1779945.00 1758178.70 84135.13 1624398.37 556589.35  
## [193] 619458.67 356179.04 50563.16 274301.58 163313.42 154794.92  
## [199] 268990.68 405132.35 711569.90 149708.81 1167064.08 133404.98  
## [205] 964804.21 735019.28 1425495.83 384427.78 380187.56 51968.13  
## [211] 1015032.96 1662059.19 1395087.30 259313.76 216851.44 554277.10  
## [217] 1176623.07 1177393.19 1764645.26 977966.83 160411.62 267735.61  
## [223] 3023003.62 960056.29 250257.89 109647.69 700276.76 140877.16  
## [229] 134428.36 544198.93 1542039.81 38684.28 910654.01 1393151.09  
## [235] 930630.66 321780.59 728457.62 98398.09 1484202.84 714524.07  
## [241] 1200705.24 234646.02 592781.04 19770.51 1430092.79

y<-df$Jours  
 y

## [1] 0 3 11 22 33 94 184 337 0 4 12 15 42 92 166 302 0 4  
## [19] 9 19 45 84 160 339 0 2 9 16 41 75 165 323 0 10 6 18  
## [37] 39 76 167 332 0 4 9 20 38 82 152 308 0 7 17 17 40 91  
## [55] 140 354 0 9 5 19 33 67 141 343 0 6 12 11 41 80 166 336  
## [73] 0 1 13 22 32 70 160 320 0 9 5 16 33 60 152 312 0 4  
## [91] 10 18 39 74 150 314 0 3 4 18 43 79 167 291 0 5 12 14  
## [109] 33 83 166 289 0 5 5 17 38 79 196 325 0 6 5 22 39 88  
## [127] 169 328 0 2 9 24 28 81 172 324 0 2 11 16 42 85 146 310  
## [145] 0 7 4 20 43 76 148 334 0 6 12 19 42 74 157 312 0 8  
## [163] 9 23 41 70 161 318 0 4 7 24 36 81 163 308 0 3 9 19  
## [181] 30 78 169 317 0 4 14 30 32 71 151 294 0 4 13 17 41 83  
## [199] 151 329 0 7 12 21 35 75 157 329 0 4 16 15 49 90 163 327  
## [217] 0 6 10 12 53 76 151 297 0 5 8 20 39 75 138 306 0 7  
## [235] 5 28 44 70 157 343 0 4 12 15 49

z<-df$Type  
 z

## [1] "Commerce" "Consommation" "Consommation" "Consommation" "Consommation"  
## [6] "Consommation" "Commerce" "Commerce" "Consommation" "Production"   
## [11] "Consommation" "Commerce" "Commerce" "Commerce" "Consommation"  
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scatterplot(y~x+z, data = df,  
 frame = FALSE)

