TD2 Exercise 6 et Exercise 7

Ex6.

1.

$$Performance = \beta_0 + \beta_1 * Taille$$

Coefficient

$β_0 = 1.7312459 β_1 = 0.342$

```
(Intercept)      Taille
  1.7312459   0.3424808
```

2.

| Source de variation | Degrés de liberté | Somme des carrés | Moyenne des carrés | $F_c$ |
|---|---|---|---|---|
| Régression | 1 | 0.012823 | 0.0128225 | 12.711 |
| Résiduelle | 18 | 0.018158 | 0.0010088 | |
| Totale | 19 | 0.0300981 | | |

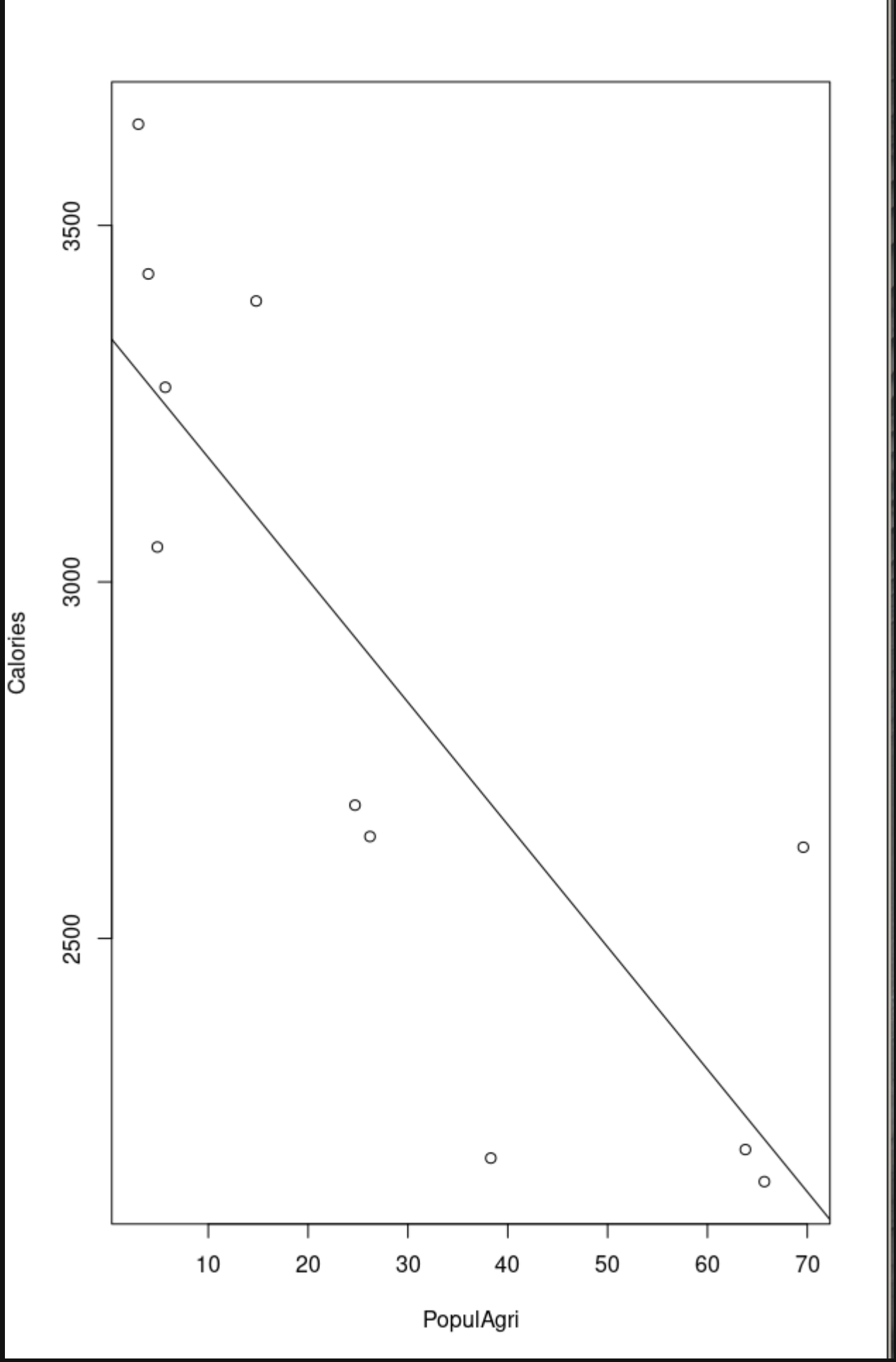
```
Analysis of Variance Table

Response: Performance
           Df   Sum Sq   Mean Sq F value   Pr(>F)
Taille      1 0.012823 0.0128225  12.711 0.002212
Residuals 18 0.018158 0.0010088

Taille    **
Residuals
```

3.

$\alpha = 0.95$

Ex7.

1.




2.

$Calories = \beta_0 + \beta_1 * PopulAgri$

Coefficient

$\beta_0 = 3346.122$ $\beta_1 = -17.164$

```
(Intercept)   PopulAgri
 3346.12221   -17.16353
```

3.

Tableau d'analyse de variance correspondant.

| Source de variation | Degrés de liberté | Somme des carrés | Moyenne des carrés | $F_c$ |
|---|---|---|---|---|
| Régression | 1 | 2045960 | 2045960 | 20.907 |
| Résiduelle | 8 | 880756 | 97862 | |
| Totale | 9 | 10853523 | | |

```
Analysis of Variance Table

Response: Calories
           Df  Sum Sq Mean Sq F value   Pr(>F)
PopulAgri   1 2045960 2045960  20.907 0.001342 **
Residuals   9  880756   97862
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1
' ' 1
```

4.

Un intervalle de confiance à 95% est:

```
                2.5 %      97.5 %
(Intercept) 3019.29457 3672.949860
PopulAgri    -25.65509   -8.671975
```

5.

3600
3500
3400
3300
3200
3100
3000
-25
-20
-15
-10
c(-25.65509, -8.671975)