

Statistiques Descriptives 2

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2025-02-21

Exercice 1

1

Tout d'abord, qu'est-ce qu'une variable explicative et une variable expliquée ?

- Une variable explicative est la variable qui permet d'expliquer une autre variable. Elle est souvent notée X . Sur une représentation graphique, la variable explicative est représentée en abscisse.
- Une variable expliquée est la variable pour laquelle on cherche un modèle de prévision. Son évolution dépend d'une ou de plusieurs autres variables. Elle est souvent notée Y . Sur une représentation graphique, la variable expliquée est représentée en ordonnée.

Ainsi, dans le cadre de notre exercice, la variable explicative est le **dosage de sérum X (en mL)**. Et la variable expliquée est la **quantité de bactéries Y (en UFC/mL)**, car c'est celle qui est mesurée en fonction du dosage de sérum et qui dépend potentiellement de X .

2

```
## Warning in grid.Call(C_stringMetric, as.graphicsAnnot(x$label)): font metrics
## unknown for character 0x4d in encoding cp1252

## Warning in grid.Call(C_stringMetric, as.graphicsAnnot(x$label)): font width
## unknown for character 0x67 in encoding cp1252

## Warning in grid.Call(C_stringMetric, as.graphicsAnnot(x$label)): font width
## unknown for character 0x6a in encoding cp1252

## Warning in grid.Call(C_stringMetric, as.graphicsAnnot(x$label)): font width
## unknown for character 0x70 in encoding cp1252

## Warning in grid.Call(C_stringMetric, as.graphicsAnnot(x$label)): font width
## unknown for character 0x71 in encoding cp1252

## Warning in grid.Call(C_stringMetric, as.graphicsAnnot(x$label)): font width
## unknown for character 0x79 in encoding cp1252

## Warning in grid.Call(C_stringMetric, as.graphicsAnnot(x$label)): font width
## unknown for character 0x51 in encoding cp1252

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, : font
## width unknown for character 0x30 in encoding cp1252

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, : font
## width unknown for character 0x2e in encoding cp1252
```

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[illegible]

[illegible]

[illegible]

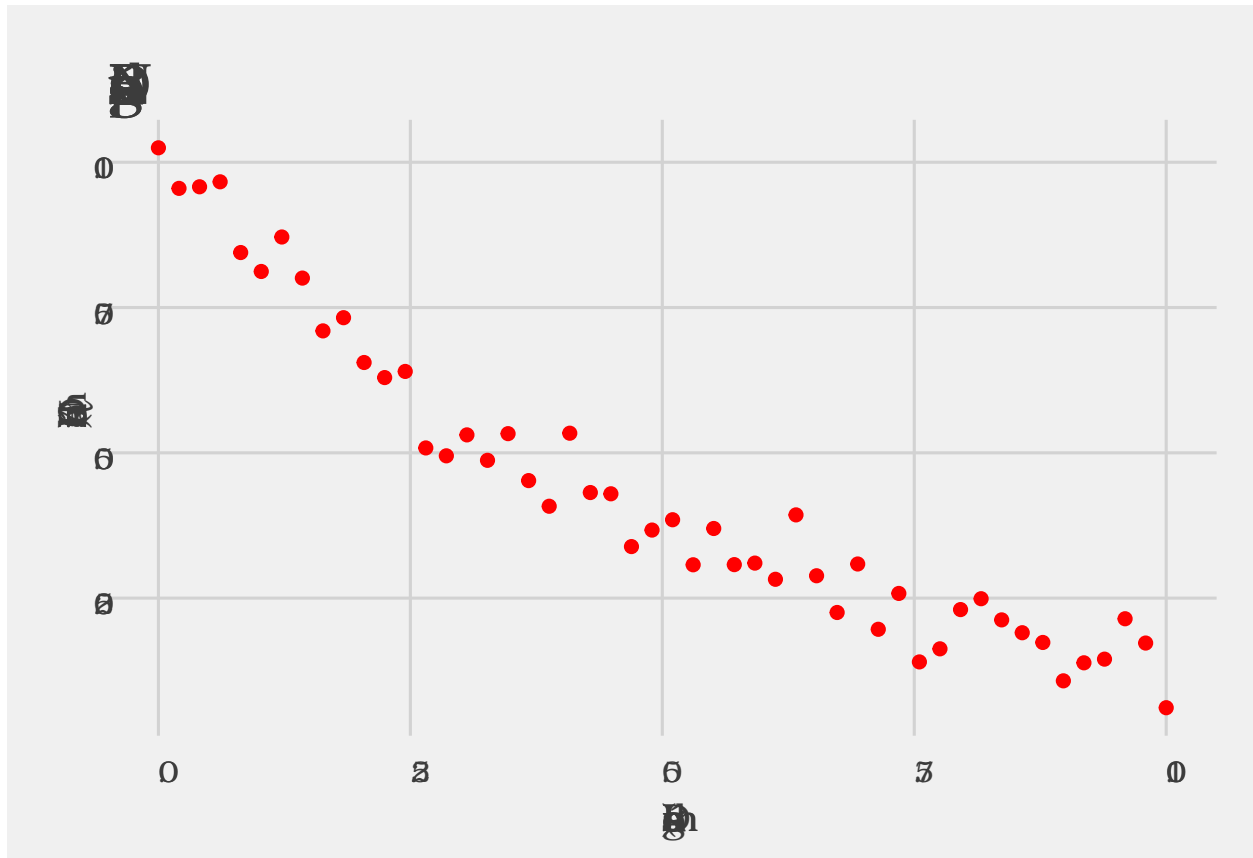
[illegible]

[illegible]

[illegible]

[illegible]

[illegible]



3

a) Moyenne de la quantité de bactéries: **0.4389205**

Variance de la quantité de bactéries: **0.0684857**

b) Box-plot de la distribution de la variable: **quantité de bactéries**

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, : font
## width unknown for character 0x2d in encoding cp1252

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, : font
## width unknown for character 0x30 in encoding cp1252

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, : font
## width unknown for character 0x2e in encoding cp1252

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, : font
## width unknown for character 0x34 in encoding cp1252

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, : font
## metrics unknown for character 0x4d in encoding cp1252

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, : font
## width unknown for character 0x2d in encoding cp1252

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, : font
## width unknown for character 0x30 in encoding cp1252

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, : font
## width unknown for character 0x2e in encoding cp1252
```

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[illegible]

[illegible]

[illegible]

```

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## font width unknown for character 0x69 in encoding cp1252

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## font width unknown for character 0x74 in encoding cp1252

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## font width unknown for character 0xe9 in encoding cp1252

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## font width unknown for character 0x20 in encoding cp1252

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## font width unknown for character 0x64 in encoding cp1252

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## font width unknown for character 0x65 in encoding cp1252

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## font width unknown for character 0x20 in encoding cp1252

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## font width unknown for character 0x62 in encoding cp1252

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## font width unknown for character 0x61 in encoding cp1252

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## font width unknown for character 0x63 in encoding cp1252

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## font width unknown for character 0x74 in encoding cp1252

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## font width unknown for character 0xe9 in encoding cp1252

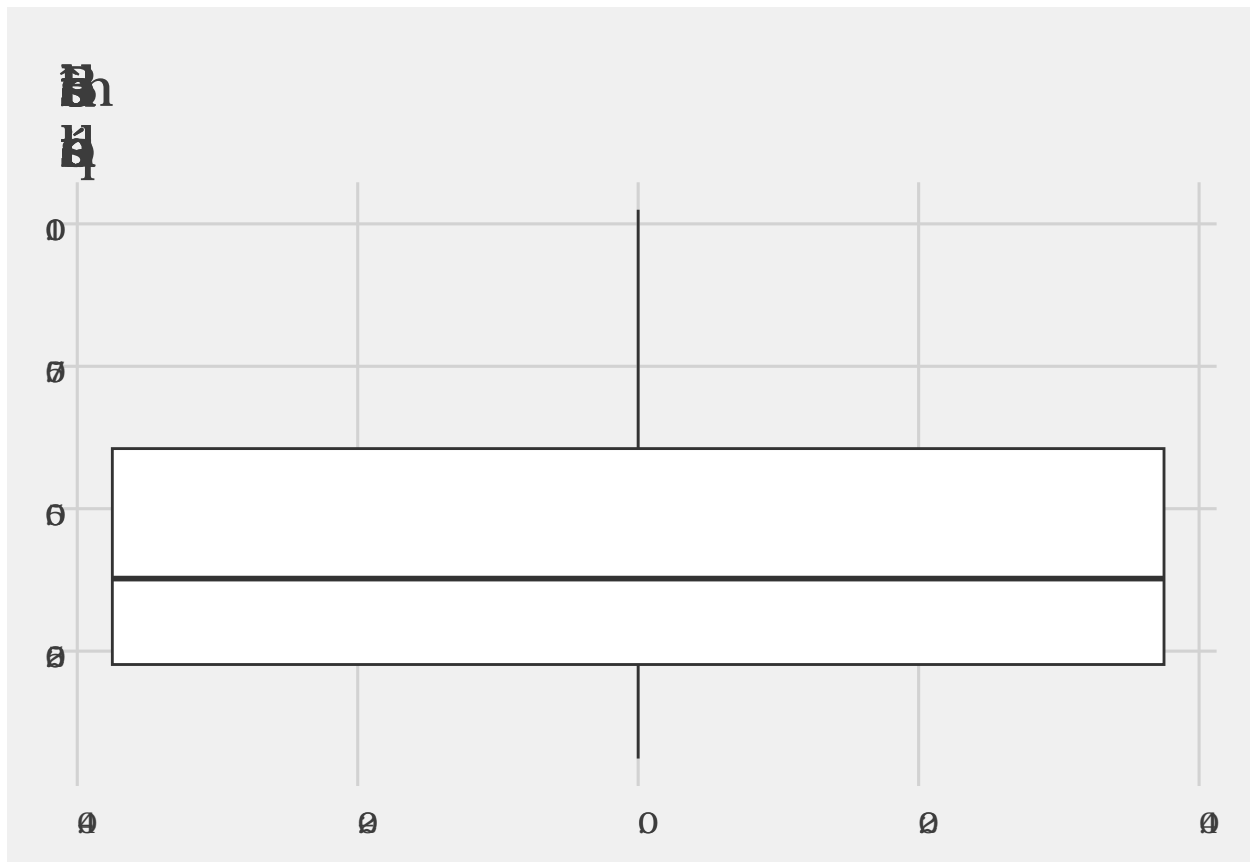
## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## font width unknown for character 0x72 in encoding cp1252

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## font width unknown for character 0x69 in encoding cp1252

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## font width unknown for character 0x65 in encoding cp1252

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## font width unknown for character 0x73 in encoding cp1252

```



a) Analyse

Juste pour avoir des infos globales sur les variables

##	X	Y
##	Min. : 0.0	Min. :0.06142
##	1st Qu.: 2.5	1st Qu.:0.22651
##	Median : 5.0	Median :0.37733
##	Mean : 5.0	Mean :0.43892
##	3rd Qu.: 7.5	3rd Qu.:0.60555
##	Max. :10.0	Max. :1.02484