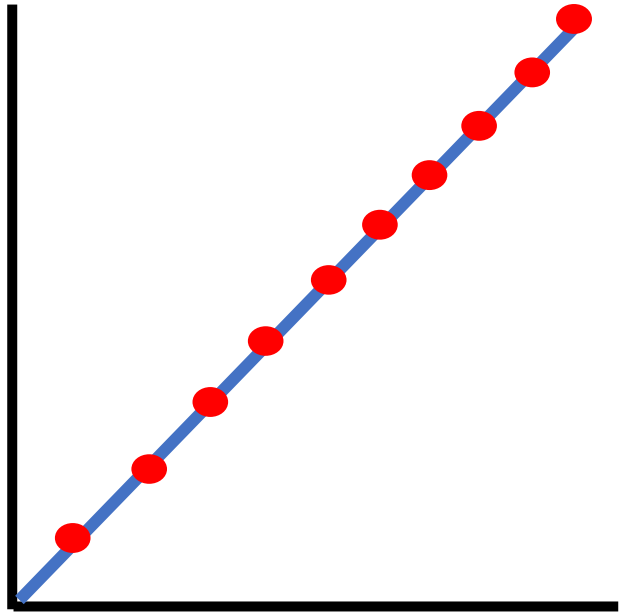
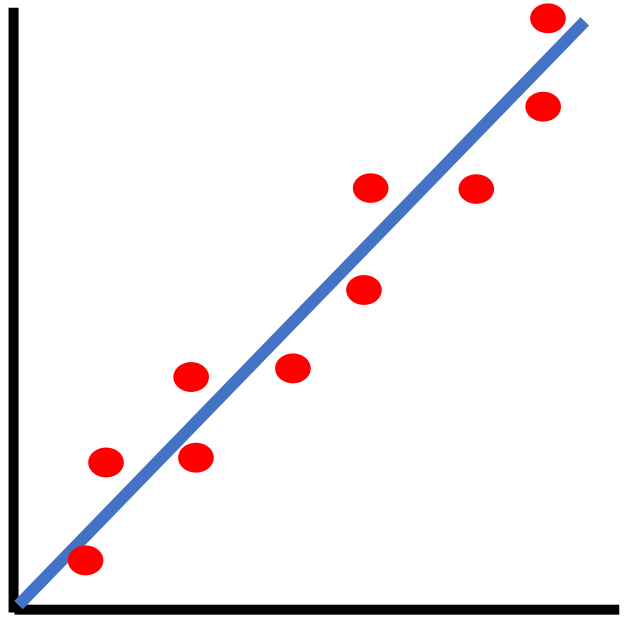
# TEMA 3. MODELOS LINEALES

# MODELO LINEAL

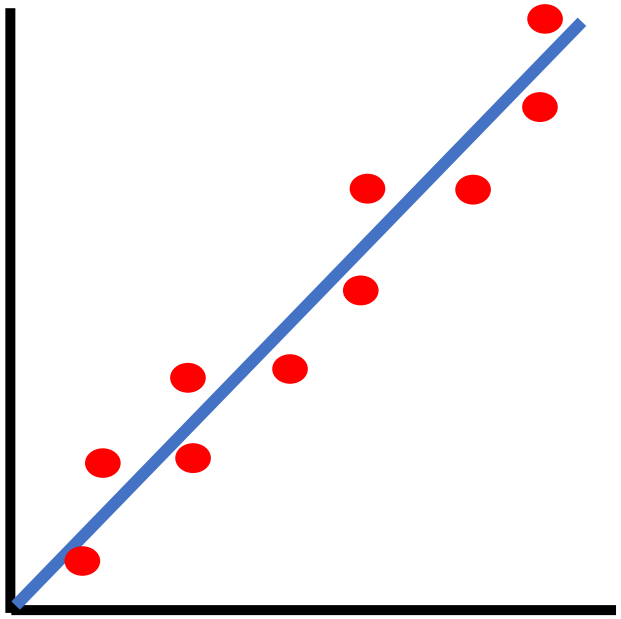


$$y = mx + b$$

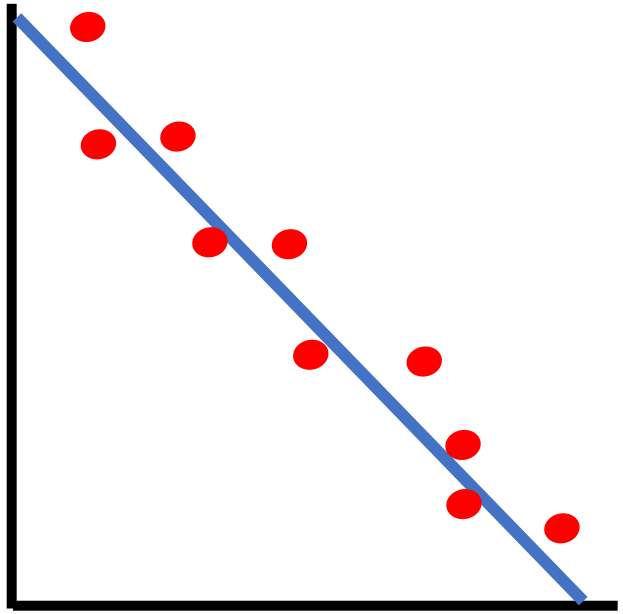


$$y = B0\ x + B1 + \epsilon$$

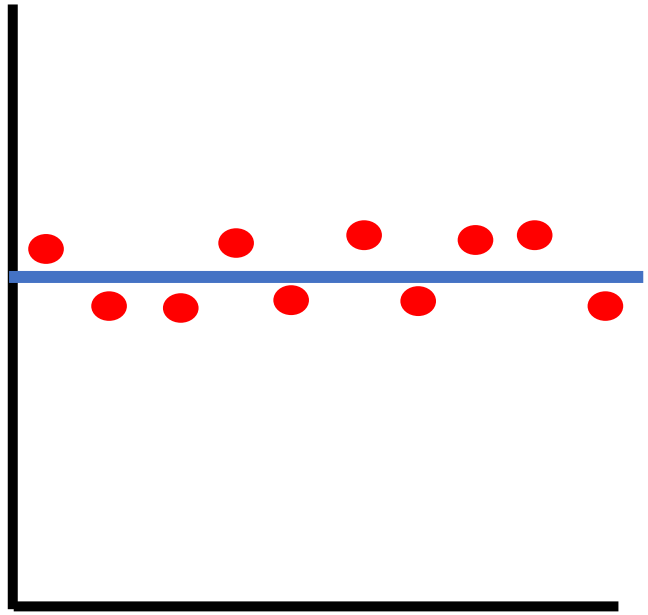
# MODELO LINEAL



POSITIVA
r = 1

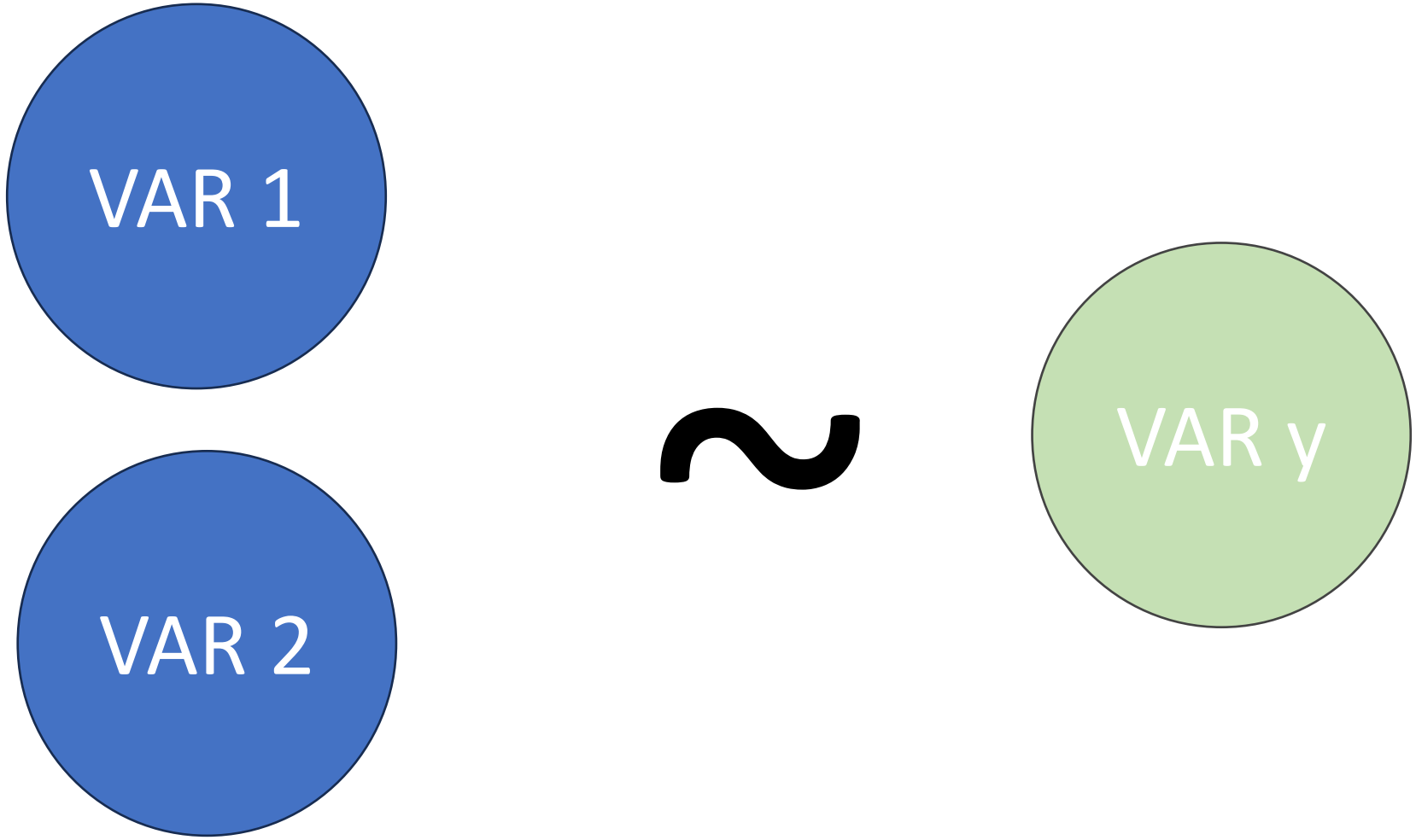


NEGATIVA
r = -1

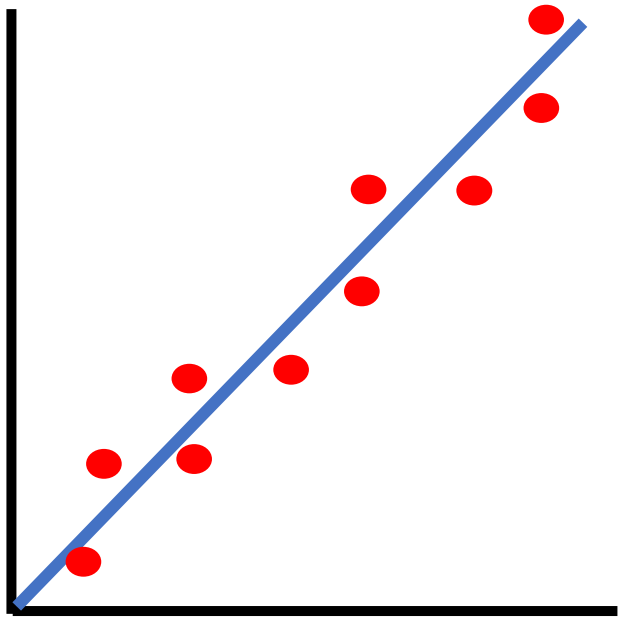


CONSTANTE
r = 0

# REGRESIÓN MÚLTIPLE



# CORRELACIÓN DE PEARSON



$$r = \frac{\sum(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum(x_i - \bar{x})^2 \sum(y_i - \bar{y})^2}}$$

# CORRELACIÓN DE KENDALL

| X | Y | | | | | |
|---|---|---|---|---|---|---|
| 1 | 3 | | | | | |
| 2 | 1 | - | | | | |
| 3 | 4 | + | + | | | |
| 4 | 2 | - | + | - | | |
| 5 | 6 | + | + | + | + | |
| 6 | 5 | + | + | + | + | - |

- Datos pequeños
- Prueba de hipótesis
- t = 0; sin correlación
- T ≠ 0; correlación

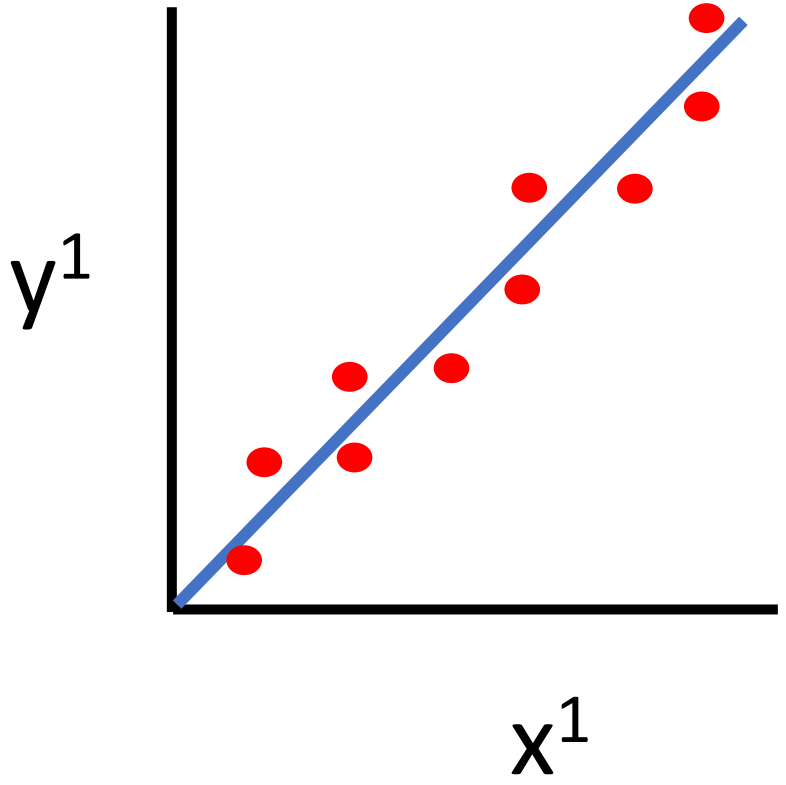
$$t = \frac{C - D}{C + D} \qquad t = \frac{11 - 4}{11 + 4}$$

$$t = \frac{7}{15} = 0.46$$

# CORRELACIÓN DE SPEARMAN

| X | Y |
|---|---|
| 1 | 3 |
| 2 | 1 |
| 3 | 4 |
| 4 | 2 |
| 5 | 6 |
| 6 | 5 |

| X | $x^1$ | Y | $y^1$ |
|---|---|---|---|
| 1 | 1 | 3 | 3 |
| 2 | 2 | 1 | **1** |
| 3 | 3 | 4 | **4** |
| 4 | 4 | 2 | **2** |
| 5 | 5 | 6 | **6** |
| 6 | 6 | 5 | **5** |



# REGRESIÓN LOGÍSTICA