X

%% -> Pipe

$\boxed{\text{Función } y} \rightarrow y(x) \rightarrow \boxed{\text{función } g} \rightarrow g(y(x))$

select

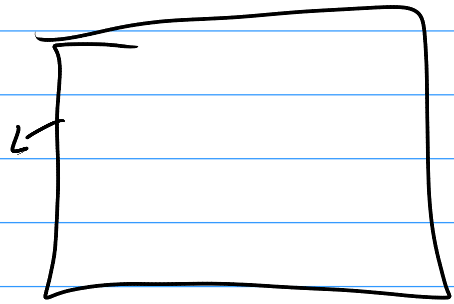
filter

title	xs.total	total	x4	
Brawl				
cod				
free fire				

pt

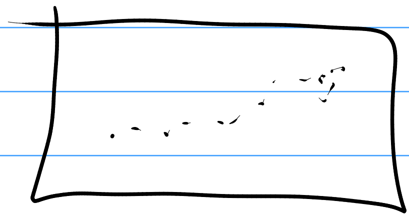
ggplot

datos
x, y



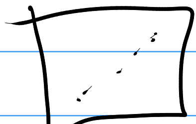
+

geom_point



+

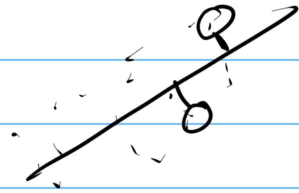
labs



X: Calificaciones totales

y: total " 5 estrellas

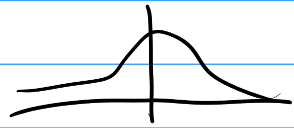
n=80



$Y_i = \beta_0 + \beta_1 X_i + \varepsilon_i$;

Para ε_i:

1- $\varepsilon_i \sim N$



2- independientes

3- idénticamente distribuido

4- $E[\varepsilon_i] = 0 = \mu$

5- $Var[\varepsilon_i] = \sigma^2$

$Y_i = \beta_0 + \beta_1 x_i + \varepsilon_i$; $\underline{\varepsilon_i \overset{iid}{\sim} N(0, \sigma^2)}$

Al ajustar

$\hat{Y}_i = \hat{\beta}_0 + \hat{\beta}_1 x_i$

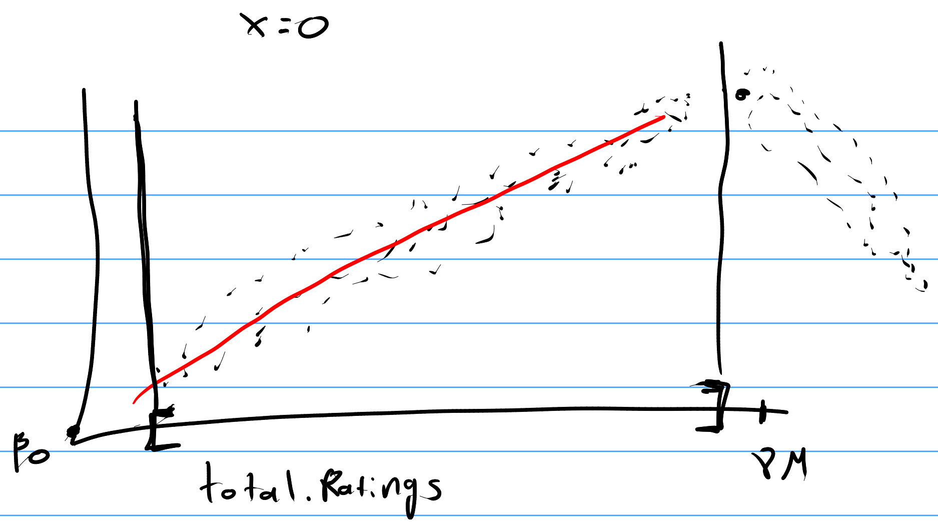
¿$\hat{\beta}_0$? ¿$\hat{\beta}_1$?

$E[Y|x_i]$

$\hat{Y}_i = \widehat{2{,}030 \times 10^{4}} + \widehat{0{,}6885} \cdot X$

$\beta_0 \overset{?}{=} 0$ $\alpha = 0{,}05$

	Estimate	val-P	
β_0	$2{,}030 \times 10^{9}$	$\boxed{0{,}363}$	→ No es significativo val-P > α
β_1	$0{,}6885$	$\boxed{2 \times 10^{-16} = 0}$	→ significativo



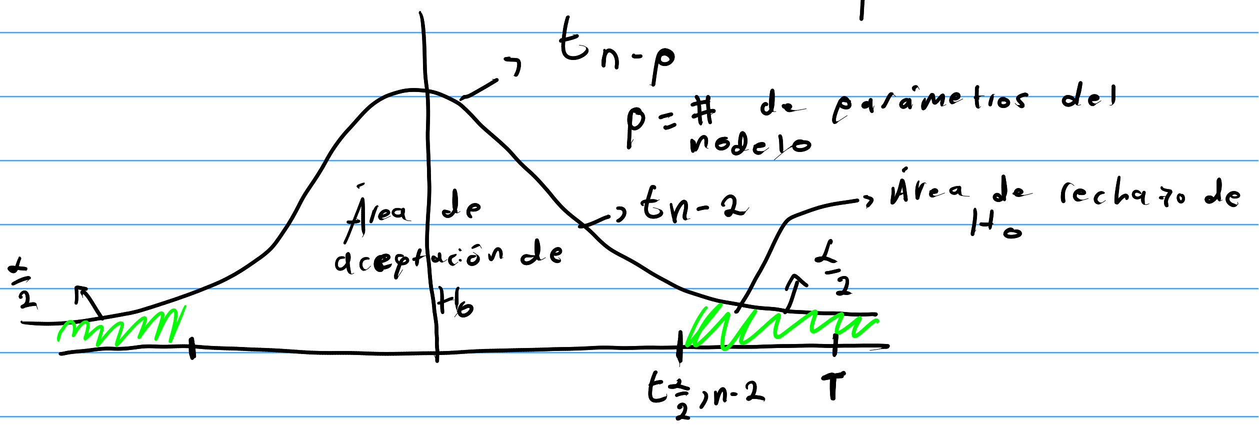
$$XS.star = \beta_0 + \beta_1 \cdot total.ratings$$

Nivel de confianza		Nivel de significancia	
95%	$1-\alpha$	0,05 = 5%	α
90%		0,1 = 10%	
99%		0,01 = 1%	

$Y_i = \beta_0 + \beta_1 X_i$

$0{,}05 = \alpha$

$0{,}025 = \alpha$

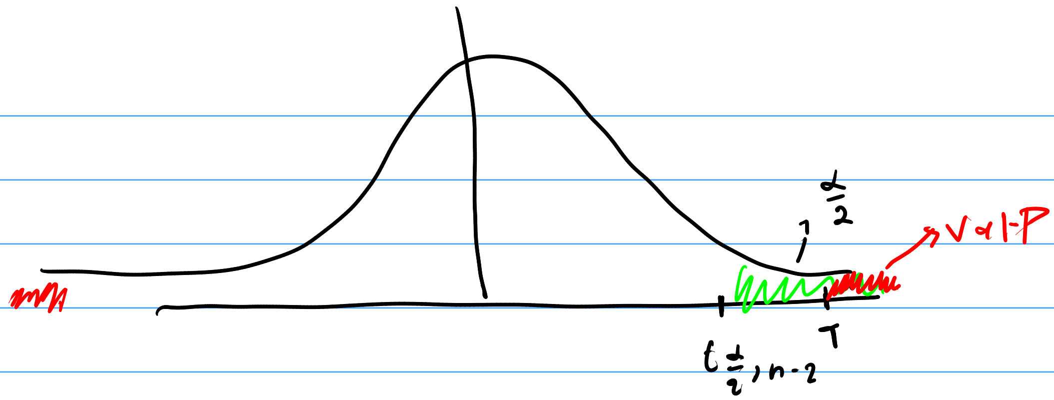


$+ = \alpha$

$$\begin{cases} H_0: \beta_1 = 0 \\ H_a: \beta_1 \neq 0 \end{cases} \qquad T = \frac{\hat{\beta}_1 - 0}{se(\hat{\beta}_1)} = 53{,}744 \sim t_{\frac{\alpha}{2},n-2}$$

Si $|T| > |t_{\frac{\alpha}{2},n-2}|$ rechazo Ho => me quedo con Ha => $\beta_1 \neq 0$ => significativo

Si $|T| < |t_{\frac{\alpha}{2},n-2}|$ No rechazo Ho => No es significativo



Si $|T| > |t_{\frac{\alpha}{2}, n-2}|$ $\Rightarrow$ rechazo

Si $\alpha > \text{Val-P}$ $\Rightarrow$ rechazo $\qquad \alpha = 0{,}05$

Si $\alpha < \text{Val-P}$ $\Rightarrow$ No rechaz

$0 \qquad \boxed{0{,}0001}$

Val-P Muy pequeño o menor al α, si es significativo porque estoy rechazando Ho, $\therefore \beta_i \neq 0$

(lim.inf , lim.sup)

$$\begin{cases} H_0: \beta_i = 0 \\ \boxed{H_a: \beta_i \neq 0} \end{cases}$$

Para β_0 se espera que el 0 esté contenido

Para β_1, no

Un intervalo de confianza de un parámetro se calcula como

$$\hat{\beta}_i \pm t_{\frac{\alpha}{2}, n-\boxed{p}} \cdot se(\hat{\beta}_i)$$

El parámetros en el modelo

1. Estadistico T, lo comparas con $t_{\frac{\alpha}{2}, n-p}$

2. Val-P, lo comparas con α

3. IC al $(1-\alpha)100\%$ contiene al θ