



EXERCISE 1

Kolmogorov - Smirnov

$sig > \alpha$

$0.975 > 0.05 \rightarrow$  There is normality

Levene

$sig > \alpha$

$1 > 0.05 \rightarrow$  There is homoscedasticity

Linearity is not necessary in this case (in the relationship qualitative-quantitative)

6th Doc of TUT	100%	100%	100%	100%
5th Doc of TUT	100%	100%	100%	100%
4th Doc of TUT	100%	100%	100%	100%
3rd Doc of TUT	100%	100%	100%	100%
2nd Doc of TUT	100%	100%	100%	100%
1st Doc of TUT	100%	100%	100%	100%

Independence of errors

$1.5 < d < 2.5 \rightarrow$  Durbin-Watson value (1.308) is not in the interval, so there is not independence of errors.

LA SECRETARIA GENERAL

*[Handwritten signature]*

Y para que así conste, a petición de la interesada, se expide la presente certificación en Sevilla a  
 veinte de enero de dos mil catorce.  
 Vº Bº  
 EL RECTOR,  
 P. D. (Por resolución de 19/02/2013)  
 La Viceministra de Profesorado  
 Fdo: María Elena Cano Baraga



## EXERCISE 2

A	B	A <sup>2</sup>	B <sup>2</sup>
300	180	90000	32400
250	200	62500	40000
280	220	78400	48400
200	240	40000	57600
270	260	72900	67600
1300	1100	343800	246000

$$t = \frac{\bar{X}_1 - \bar{X}_2}{S_{X_1, X_2} \sqrt{\frac{2}{n}}} = \frac{260 - 220}{31.3 \sqrt{\frac{2}{5}}} = \frac{40}{31.3 \cdot \sqrt{0.4}} = \frac{40}{31.3 \cdot 0.63} = \frac{40}{19.72} = 2.03$$

$$\bar{X}_1 = \frac{\sum X}{n} = \frac{1300}{5} = 260$$

$$\bar{X}_2 = \frac{\sum X}{n} = \frac{1100}{5} = 220$$

$$S_{X_1, X_2} = \sqrt{\frac{S^2_{X_1} + S^2_{X_2}}{2}} = \sqrt{\frac{1160 + 800}{2}} = \sqrt{\frac{1960}{2}} = \sqrt{980} = 31.3$$

$$S^2_{X_1} = \frac{\sum X^2}{N} - \bar{X}^2 = \frac{343800}{5} - 260^2 = 68760 - 67600 = 1160$$

$$S^2_{X_2} = \frac{\sum X^2}{N} - \bar{X}^2 = \frac{246000}{5} - 220^2 = 49200 - 48400 = 800$$

$$t(\alpha, N-2) = t(0.1, 10-2) = t(0.1, 8) = 1.86$$

temp

t<sub>t</sub>

2.03

> 1.86

~~No~~

The weight is statistically different depending on the protein ingested

Exercise 3

LOWER-BOUND = 2nd stage

$F(0.05, 1, 3) = 10.13$

EXERCISE 4

a)

	SS	df	MS	F
BETWEEN	164	3	54.667	14.318
WITHIN	42	11	3.818	
TOTAL	206	14		

b) Yes, because  $sig < \alpha$   
 $0.001 < 0.01$

c)  $R^2 = \frac{SS_{between}}{SS_{total}} = \frac{164}{206} = 0.796$

d) ~~No~~ — significant  
 0.796 — high effect size  
 The effect probably exists

e) B-C and C-D.  
 $0.003 < 0.002 < 0.01$

Fecha de inicio	Fecha de fin	Actividad	Profesor de la Universidad
07/07/2004	23/07/2004	Laboratorio de Colaboración	Prof. de la Universidad
01/10/2004	12/10/2004	Actividad de Asociación (Interna)	Prof. de la Universidad
08/10/2005	28/10/2005	Actividad de Asociación (Interna)	Prof. de la Universidad
11/10/2006	11/10/2007	Actividad de Asociación (Interna)	Prof. de la Universidad
16/01/2008	10/07/2008	Laboratorio de Asociación	Prof. de la Universidad

