

LIFETIME DATA ANALYSIS

Information on the practical work

Delivery: January 7, 2022.

1 Contents

The practical work consists of analyzing a data set and writing a report that should have the following structure:

1. Introduction (1 Point)
2. Descriptive analysis (1.25)
3. Nonparametric analysis (2)
 - Estimation of the survival function.
 - Estimation of the median survival time.
 - Comparison of survival functions by means of nonparametric tests such as the logrank test.
4. Fit of a parametric survival model (2.25)
 - Fit of a Weibull, log-logistic, or lognormal model.
 - Interpretation of the model fit.
 - Interpretation of the model parameters in terms of relative hazards or relative odds, and the accelerating factor.
5. Fit of a semi-parametric model (2.25)
 - Fit of the proportional hazards models.
 - Interpretation of the model fit.
 - Interpretation of the model parameters in terms of relative hazards.
 - Analysis of the residuals to check the model's goodness-of-fit.
6. Conclusions (0.75)

The report can be written in either Catalan, Spanish, or English and it should comprise approximately 10 to 12 pages with a maximum number of five tables and five figures. Half a point is given for a good presentation of the work.

2 Data sets

Data set	Students
AIDS.txt	Àlex & Helena Arvin & Johanna Elena
BreastCancer.txt	Clara & Jordi Elise & Tess Nuria Bot.
Burn.txt	Carlota & Carlota Nina Grace
Pbc.txt	Núria Bos. & Oriol M. Nuria S. Hugo
KidneyCancer.txt	Esther & Maialen Oriol P. Isabel
ProstateCancer.txt	Johannes & Ulrik Adrià Ernest
STD.txt	Alexander & Rodrigo Alba & Pere Hai Yen
