Evaluation of Project 3 in TMA4275 Lifetime analysis Spring 2024

This document specifies how the solutions to Project 3 are evaluated. The document should be read together with the problem text. The evaluation is done by assigning up to ten points for the solution of each of the eight items. In addition up to twenty points are given based on how the solution report is structured, that it is easy to follow the solutions, that proper sentences are used, that the notation and equations are easy to follow, that the text does not include a lot of typos, and so on.

All the points are thereafter added together and finally the total number of points is converted to a letter grade according to the conversion rule specified at the end of this document.

In the following we specify rules used to assign points to each of the items in the problem text.

1a) Four points are given for correctly producing results for the Cox regression with all covariates included, and four points are given for correctly producing results for the Cox regression model with the reduced number of covariates. Up to two points are given for a discussion of the importance of the various covariates.

1b) Four points are given for writing a correct code for estimating the integrated hazard rate. Three points are given for producing plots of the estimated integrated hazard rates and discussing the results. Finally, three points are given for producing plots of the estimated survival functions and discussing the results.

1c) Five points for redoing the two analyses using a Weibull regression model. Three point for computing estimated regression coefficients that have the same interpretation as for the Cox regression model. Two point for comparing the two sets of parameter estimates.

1d) Four points for the plots of the estimated survival functions. Two points for plots of the martingale residuals, two points for discussion of the results, and two points for the question whether an exponential regression model would give a good fit.

1e) Four points for choosing a reasonable criterion, and six points for coding and getting it to work.

2a) Four points for simulation from a Weibull distribution (including find correct parameters for the Weibull distribution). Three points for finding a reasonable value for the mean censoring time. Three points for implementation of an R function that seems to work ok.

2b) Five points for implementing the R function. Three points for making plots of the estimaed intensity processes and martingale residuals. Two points for discussing what confidence the results give to the estimated results in Problem 1.

2c) Five points for table of probability for each covariate being included in the model, including discussion of whether the results are reasonable. Three points for plots of survival functions, and two points for reasonable comments about what one can learn from this plot.

⋆ Report structure etc.: In the evaluation, ignore typos if the frequency of typos is low. Subtract points when the number of typos is high, if errors in the referencing to figures and/or tables, if the figures/tables are missing captions, if the notation used is inconsistent, if the text includes several sentences that are not properly formulated, if the text if very short (and thereby hard to understand), and so on.

The aggragated number of points is converted to a letter grade according to the following table.

Points	Letter grade
$[89, 100]$	A
$[77, 88)$	B
$[65, 76)$	C
$[53, 64)$	D
$[41, 52)$	E
$[0, 41)$	F