# Assessment 2B – Week 3 Workbook Exercise

## General Linear Modelling

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| Question | Answer | SAS VA visualisation reference |
| 1. What is the AIC value for the model? | 408,433.77 | GLM-Poisson  Summary Statistics – Fit Statistics |
| 1. How many parameters ended up in the model? | 30 [incl the intercept] | GLM-Poisson  Summary Statistics – Parameter Estimates or Summary Statistics - Dimensions |
| 1. What is the AIC value for the GLM-Gamma model? | 332,364.36 | GLM-Gamma |
| 1. Which model is selected as the best model? | Linear model [with ASE or SSE as Fit Statistic]  GLM-Gamma model [with Observed Average as Fit Statistic] | Model Comparison 1  Summary Statistics – Statistics |
| 1. What is the most important variable for the Linear 1 model? | Gift Amount Average 36 Months | Model Comparison 1  Summary Statistics – Variable Importance |
| 1. What is the AIC value for the GLM-Poisson Log model? | 154,389.71 | GLM-Poisson Log  Summary Statistics – Fit Statistics |
| 1. What is the MSE value for the Linear 1 Log model? | 0.197224 | Linear 1 Log  Summary Statistics – Overall ANOVA |
| 1. Did the most important variables for any model type change? | [Nb, the wording of this question was somewhat ambiguous and open to interpretation.]  No; although the order of significance of the predictor variables for the new models was slightly different. For example, *Gift Amount Last* was the 4th most important predictor in the **Linear 1 Log** model, but the 5th most important in the **GLM-Poisson Log** model.  [answer should be  Linear: No as stayed *Gift Amount Average 36 Months*  GLM-Poisson: Yes as changed to *Gift Count 36 Months* from *Gift Amount Average 36 Months*] | Model Comparison 2  Summary Statistics – Variable Importance |
| 1. What is the most important variable for the Linear 1 Log model? | Gift Amount Average 36 Months | Model Comparison 2  Summary Statistics – Variable Importance |
| 1. What is the most important variable for the GLM-Poisson Log model? | Gift Count 36 Months | Model Comparison 2  Summary Statistics – Variable Importance |



