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| 3D Plots |
| Figure 4.2(a) Figure 4.2(b)  Figure 4.2(c)  The Binary predictive model and the actual data both indicated that the majority of data points (22450 and 19250 respectively) were labeled as “not-readmitted”. However, the model incorrectly predicted a higher number of “not-readmitted” labels (Out of 3426 readmitted episodes, only 226 of them were labeled as readmitted by the model).  This suggests that the predictive model was not very accurate in identifying the readmitted class in general. |
| Figure 4.2(d) Figure 4.2(e)  Figure 4.2(f)  When the number of diagnoses and medications is low, the model often overestimates the readmission time, predicting more than 2 years instead of the actual 6 months to 2 years. Conversely, for patients with more diagnoses (more than 2), the model is more likely to predict shorter readmission times (Plot 2-1, with data tag).  Also based on the model, for males more diagnoses increase the chance of readmission in 6 months to 2 years, while more medications increase the chance of readmission in less than 6 months. For females both more diagnoses and more medications lead to higher probability of readmission in 6 months. The model is more accurate when the patients have more diagnoses and medications, as it follows the same patterns as the actual data. |
| Figure 4.2(g) Figure 4.2(h)  Across different age groups, the predicted and actual readmission rates seem more similar. However, the model still makes errors such as for the teenage patients with more diagnoses, as it predicts shorter readmission period than the actual data. |
| Figure 4.2(i) Figure 4.2(j)  The plots (predicted and actual) reveal following points about data:   * *Teenagers* have usually shorter episodes of care than other age groups, but they spent more time as inpatients. * According to the model, the readmission time differs by age group. *Preschoolers* and *Middle childhood* tend to be readmitted after 2 years, whereas teenagers have higher chances of being readmitted within 2 years (0-6m or 6m-2y). |