

**OneR:**

OneR achieved an accuracy of 0.7239 by using Glucose as the DF. It predicted that a patient would have diabetes if their glucose value was in the fourth quartile, and otherwise predicted that they would not have diabetes.

Its sensitivity was 50/97, or 0.51 and its specificity was 190/211, or 0.90.

As such, this OneR model correctly identified most negative outcomes, but identified positive outcomes only half of the time, which might make it less than ideal as a diagnostic tool.

**Naive Bayes:**

Naive Bayes achieved an accuracy of 0.7825. Its sensitivity was 74/106, or 0.69, and its specificity was 167/202, or 0.82.

Although this Naive Bayes model has a specificity less than that of OneR, it is much better at identifying patients with diabetes and has a higher overall accuracy, meaning that it is most likely a better model.

**Naive Bayes With Class Proportions Maintained:**

The second Naive Bayes model maintains class proportions in the training set. It had an accuracy of 0.72, a sensitivity of 67/107 or 0.62, and a specificity of 155/200 or 0.77.

It is uniformly worse than the previous Naive Bayes model.

**Decision Tree:**

The decision tree model had an accuracy of 0.7068, a sensitivity of 0.78, and a specificity of 0.56. Its precision was 0.76.

Although it has lower accuracy than the first Naive Bayes model, the decision tree is more likely to identify positive outcomes, which may make it more useful for diagnostic purposes.

**Rule Set:**

The rule set had an accuracy of 0.6971, a sensitivity of 0.77, and a specificity of 0.55. Its precision was 0.76.

As such, it is better at identifying positive outcomes than OneR or the first Naive Bayes model, but is worse at identifying negative outcomes and has less overall accuracy than the second Naive Bayes model. It is approximately on par with the decision tree model.

**Conclusions:**

Overall, the Naive Bayes models seem to be the most effective classifiers for this data. Between them, it is likely that the second model is more effective, in spite of its lower accuracy, since it has a significantly higher specificity and might therefore be better at identifying diabetic patients.