```
                                      Time in millisec    Logistic Regression                       Time in millisec
Naive Bayes                           0.072s              Coefficients W0 + W1 * X
                                                          0.988122 -2.35228X                         33s (500 Iterations)
            Survived        Died
Male                                                      Chances of survival
Pclass 1    0.0520833       0.0882172                     female 0.728717
Pclass 2    0.0328526       0.115523                      male   0.203566
Pclass 3    0.0400641       0.30876
Female                                                    Accuracy:       0.784553                   0.351s
Pclass 1    0.110417        0.0167828                     Sensitivity:    0.695652                   0.355s
Pclass 2    0.0696474       0.0219775                     Specificity:    0.862595                   0.443s
Pclass 3    0.0400641       0.0587398
Age
Avg         11.235          18.5388
Std         14.215          14.5114

Accuracy:       0.768293                0.3s
Sensitivity:    0.530435                0.48s
Specificity:    0.977099                0.246s
```

Based on the output Logistic regression takes more time than Naïve Bayes most likely because of its iterative nature however it is slightly more accurate. Something quite noteworthy is that logistic regression has a higher sensitivity while naïve bayes has a higher specificity.

Both models create a boundary that groups data points and uses those groups to predict the grouping of future points however their methods are drastically different. Discriminative models use iteration to create a boundary line between data points in order to classify models whereas generative models use probabilities in order to group data points together. Because of this, discriminative models are limited to creating only a boundary line, but generative models can create circular areas for groupings.

In terms of their performance's discriminative models will always take more time to execute because it has to perform repeated calculations on the training set but the generative model only has to look at the data once. However discriminative models can be more accurate based on the amount of data given to it compared to generative models.

Reproduceable research means having the ability to document and reproduce your results. Having your work be reproduceable "helps your teams reduce errors and ambiguity when the projects move from development to production" [1]. This means that whenever errors occur for other users, you and your team are able to easily recreate said errors and solve the issue.

Reproducible research is also important because "It is what enables a researcher to build upon, or refute, previous research" [2]. Meaning without reproducible research, research could become chaotic or contradicting, with multiple different people getting different results because the basis of their works is not consistent. Reproducible research is important in every field because without it, there is no way to prove anything because it isn't constant.

[1] https://www.decisivedge.com/blog/the-importance-of-reproducibility-in-machine-learning-applications/#:~:text=Reproducibility%20helps%20your%20teams%20reduce,project%20results%20are%20actually%20correct.

[2] Cacho, J.R.F., Taghva, K. (2020). The State of Reproducible Research in Computer Science. In: Latifi, S. (eds) 17th International Conference on Information Technology–New Generations (ITNG 2020). Advances in Intelligent Systems and Computing, vol 1134. Springer, Cham. https://doi.org/10.1007/978-3-030-43020-7_68