Here's a run of logistic regression on the data set

```
0.511962 0.0956938
0.269139 0

Cofficient: 0.788372
Accuracy: 0.890859
Sensitivity: 1
Specificity: 0.737705
```

This means that my predictions had a 90% accuracy with 100% accuracy in detecting items that were true positive, and a 73% chance of detecting true negatives. The correlation coefficient is 79% meaning there is a mildly strong correlation.

Generative classifiers build models based on the positives and negatives. They are probabilistic models of each classification. It then looks for the best possible boundary between one classification and another. This boundary is an enclosed area in the form of a circle where most of the data that falls within the area is said to be of one classification.

Discriminative classifiers are similar to generative classifiers except they form a boundary with a line instead of an area. The line doesn't necessarily have to be linear; it just has to divide the two classifications. This can lead to slightly different results but overall, if the data isn't bad, the results won't be too different.

Source: https://www.youtube.com/watch?v=XtYMRq7f7KA

Reproducible research means studies that can be redone the same exact way. This is important because most if not all studies should be performed multiple times to see if they yield the same results every time. If the results are the same, the study can be deemed reliable and the results are deemed as correct. If not, the study is an unreliable source and must be changed in a way to be more reproducible.

To reproduce a study, the people performing the study must take detailed notes of everything they do. This is necessary because even one small difference between studies can lead to different results. If the people have taken detailed notes, the study can easily be redone. The only issue would be trying to figure out why the results are not the same. It could be a human error or an error in the process that does not allow results to be completely reproducible. If it is the latter, the study should not be used for any source and should either be changed or discarded.

Sources:
https://blog.ml.cmu.edu/2020/08/31/5-reproducibility/
https://www.nature.com/articles/s41592-021-01256-7