

Diabetes
Awareness

NOV 2021

PREDICTING DIABETES

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CONTENT OUTLINE



Introduction

Dataset

Exolarity Data Analysis

Data Pre-processing

Model Building and Evaluation

Conclusion

PROBLEM STATEMENT

- Diabetes is a common chronic disease and poses a great threat to human health.
- It can lead to chronic damage and dysfunction of various tissues. Therefore, The earlier diagnosis is obtained, the much easier we can control diabetes.
- Our aim is to predict diabetes using Classification techniques.

DATASET

Pregnancies

Glucose

Blood Pressure

Skin Thickness

Insulin

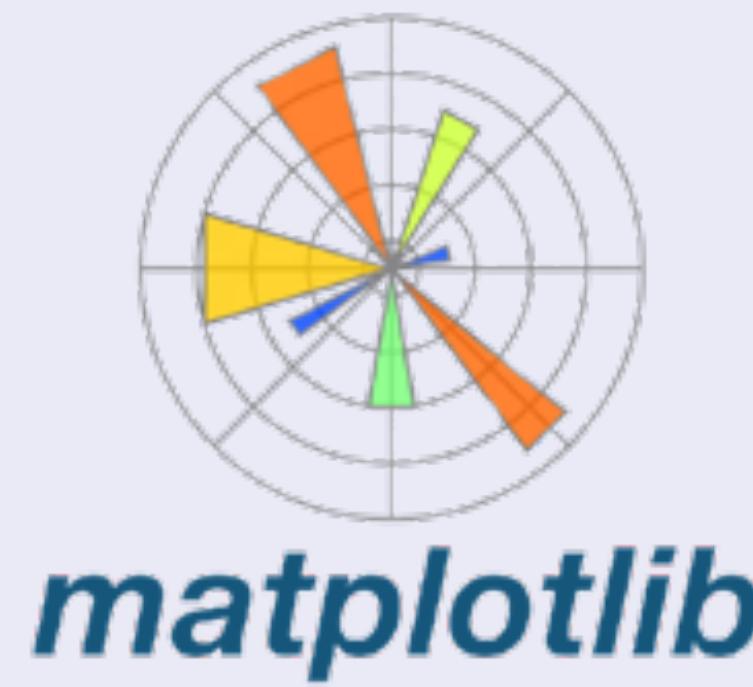
BMI

Diabetes Pedigree
Function

Age

Outcome

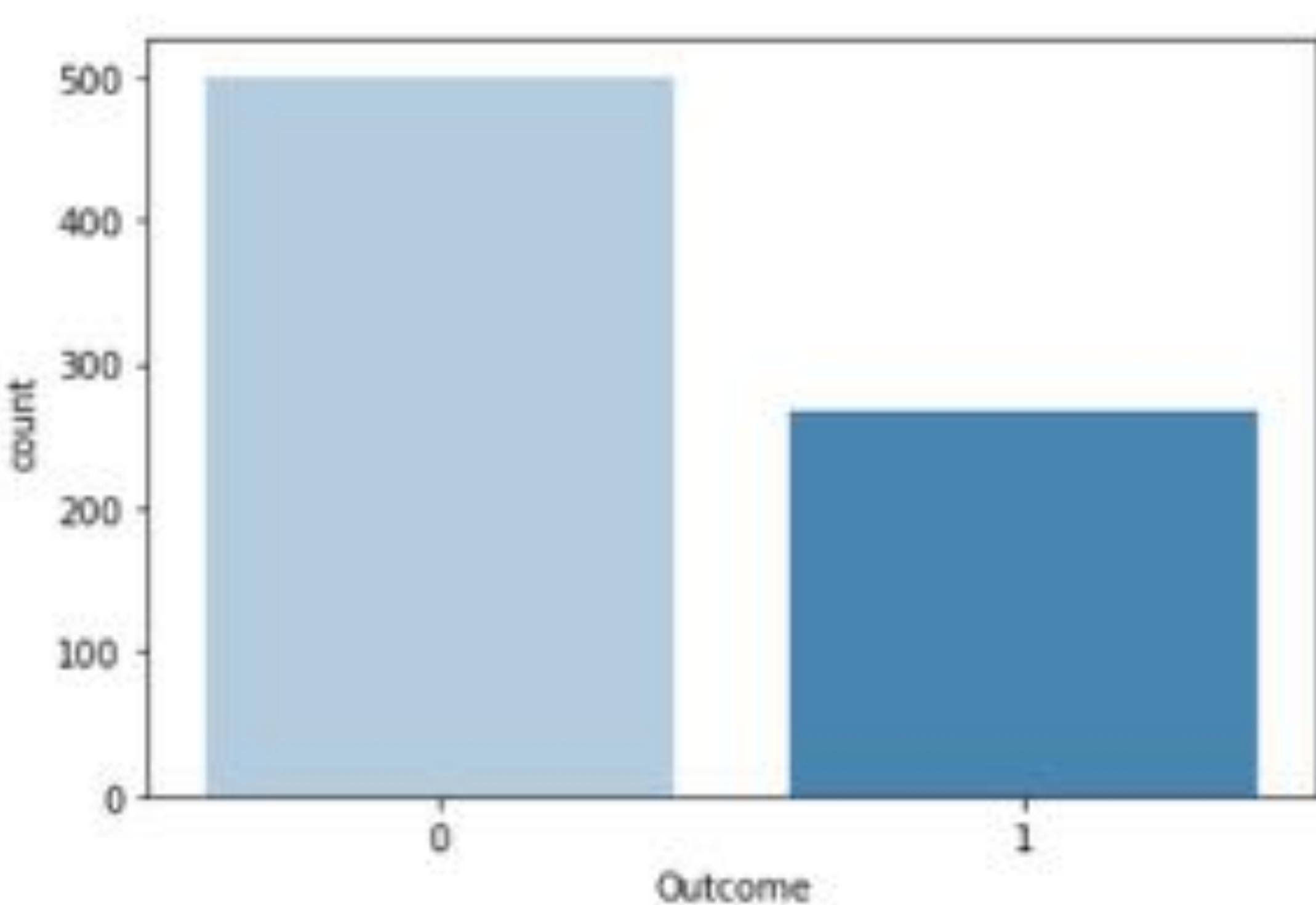
TOOLS



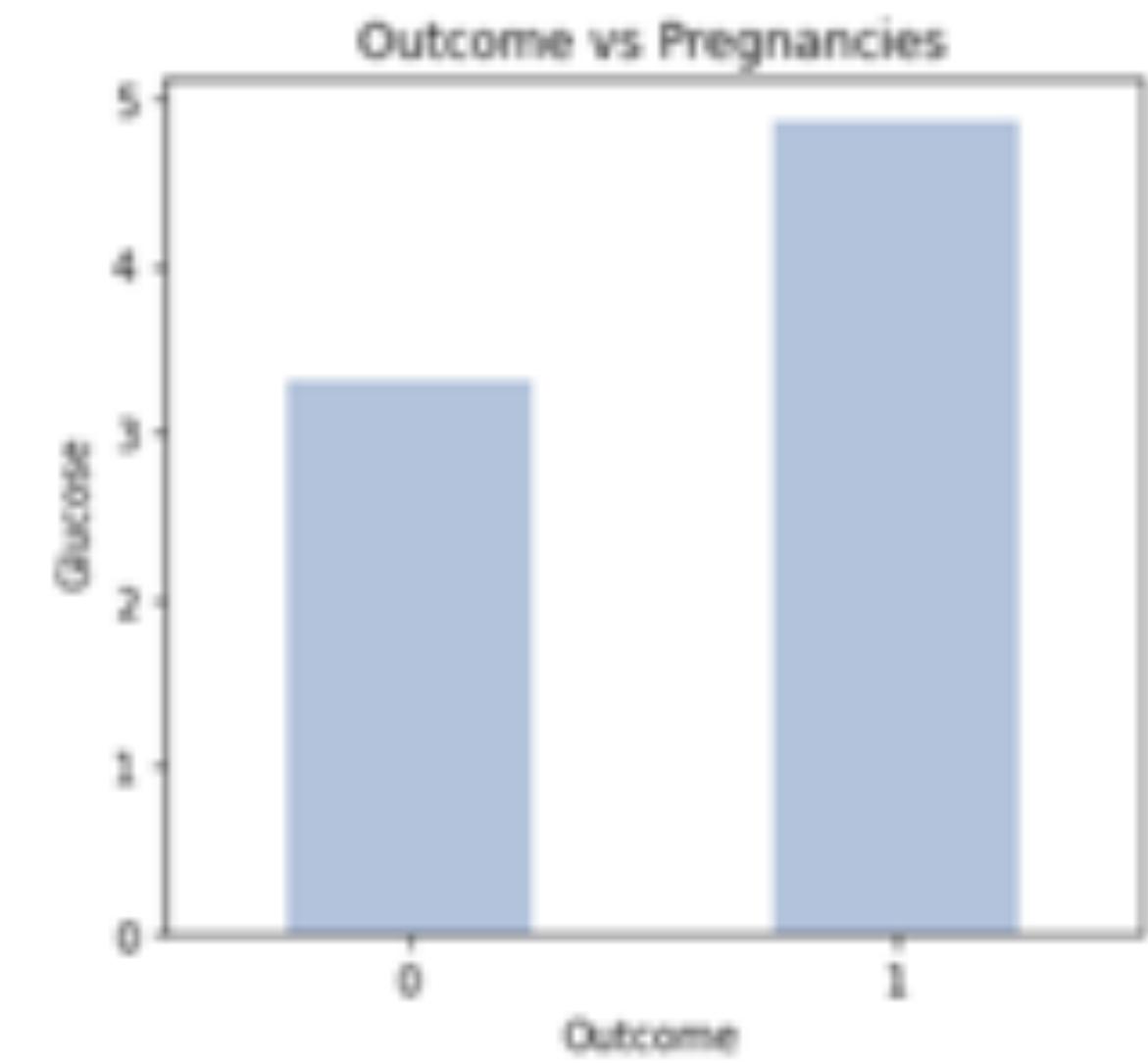
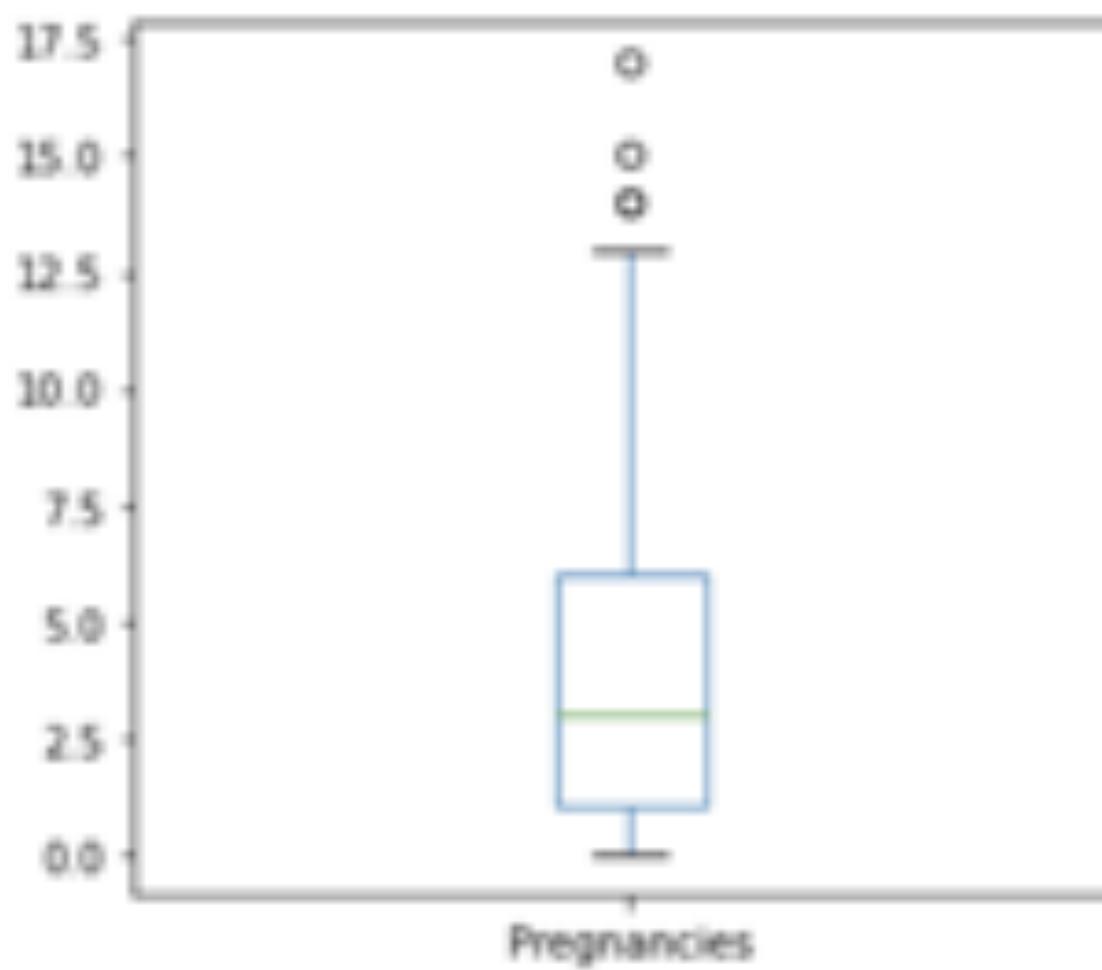
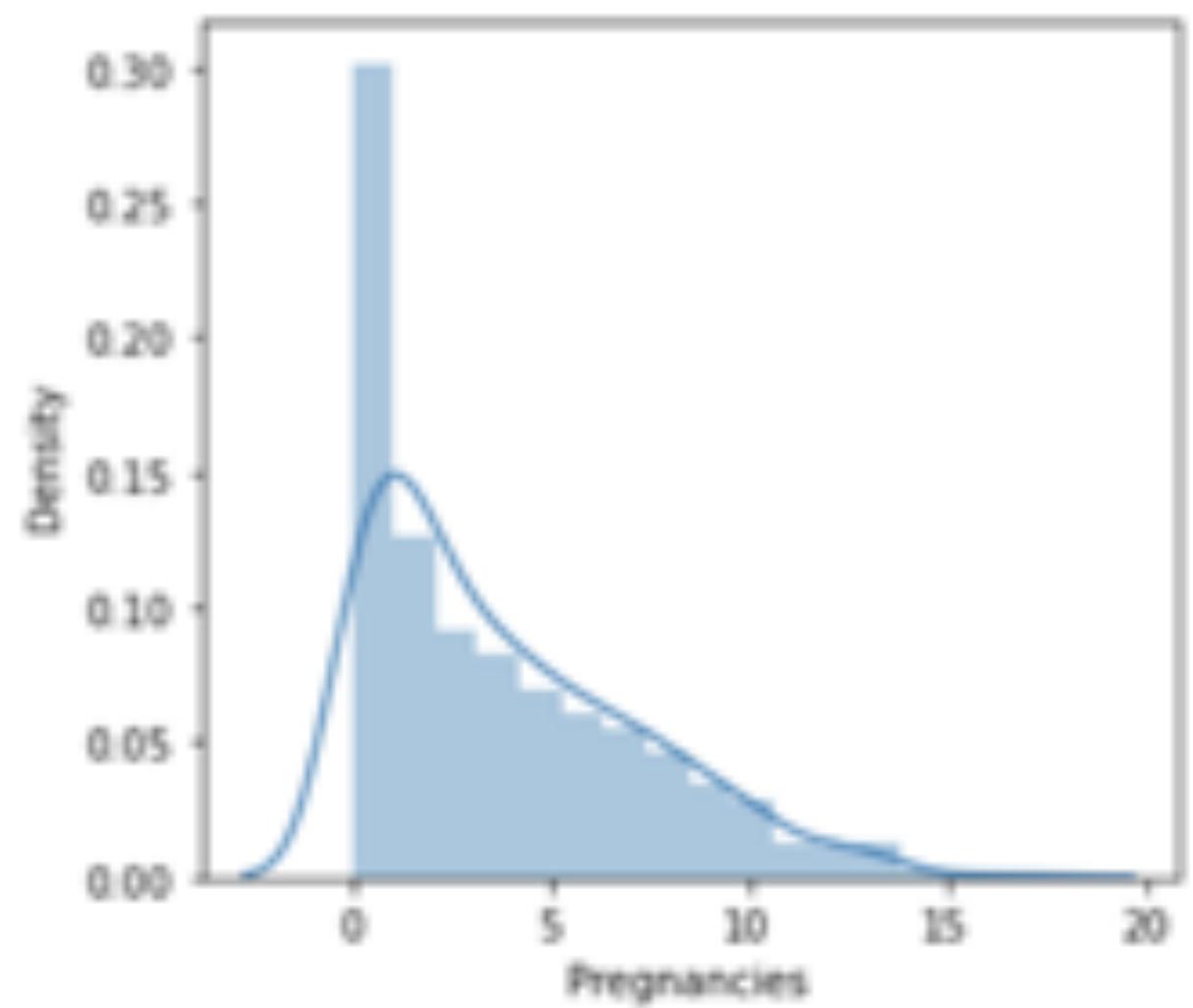
Pandas



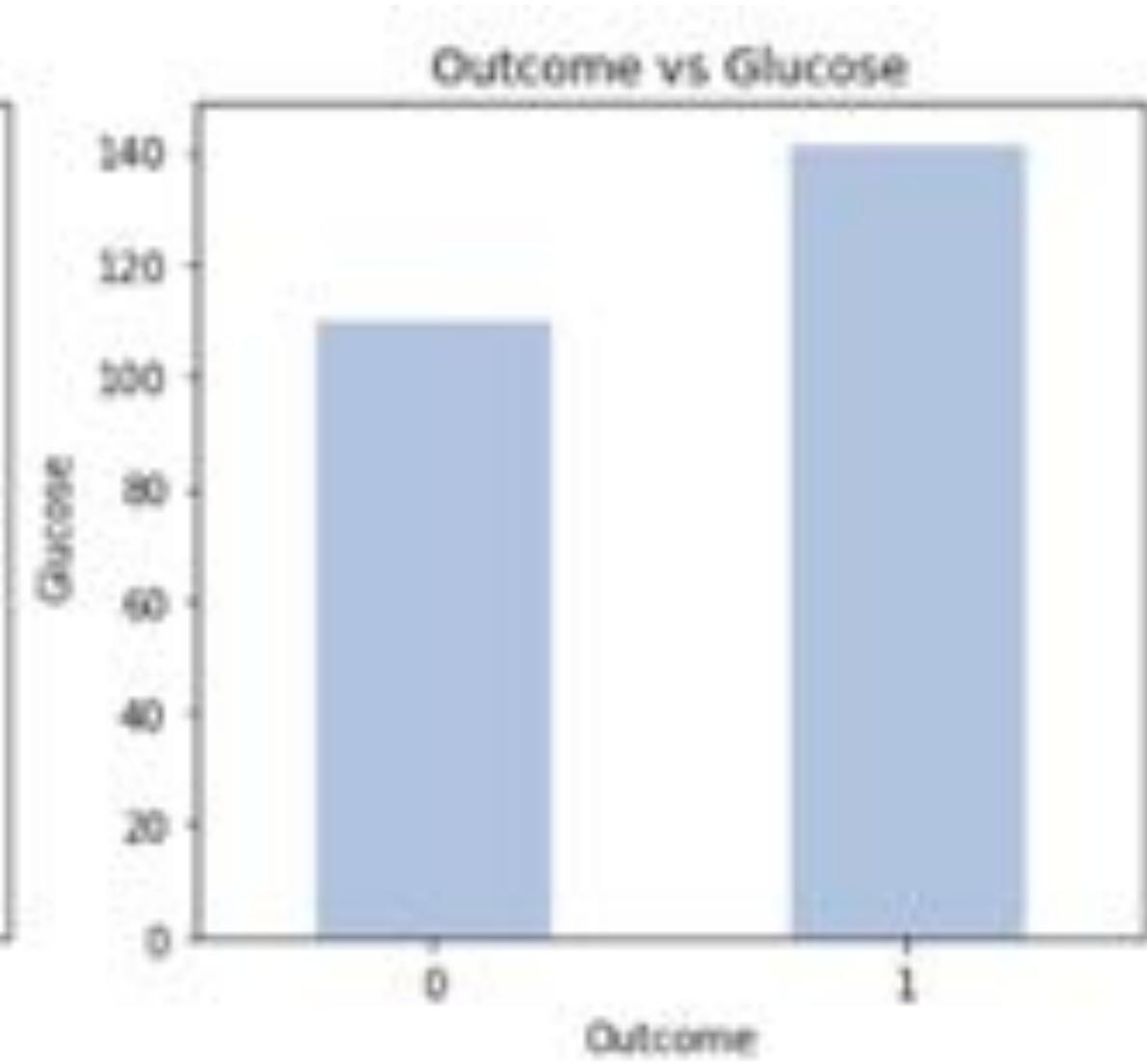
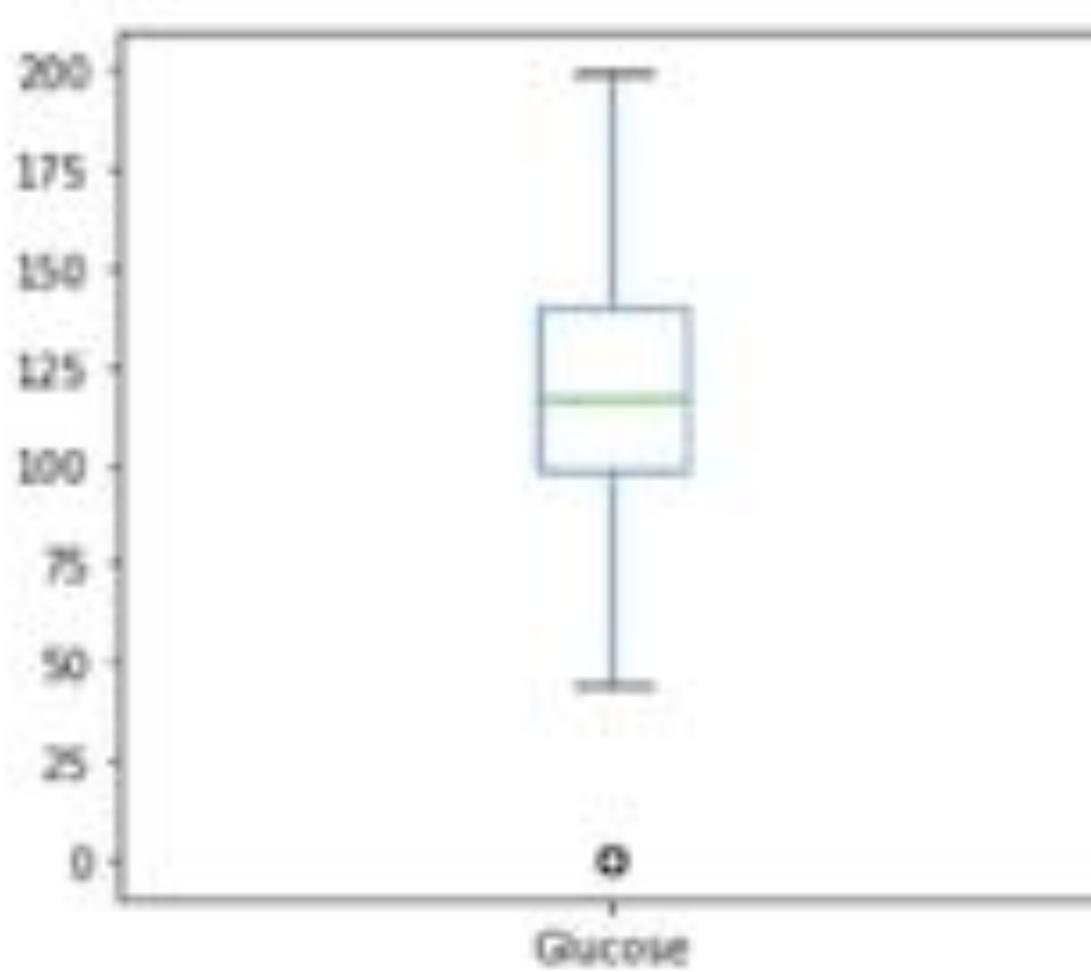
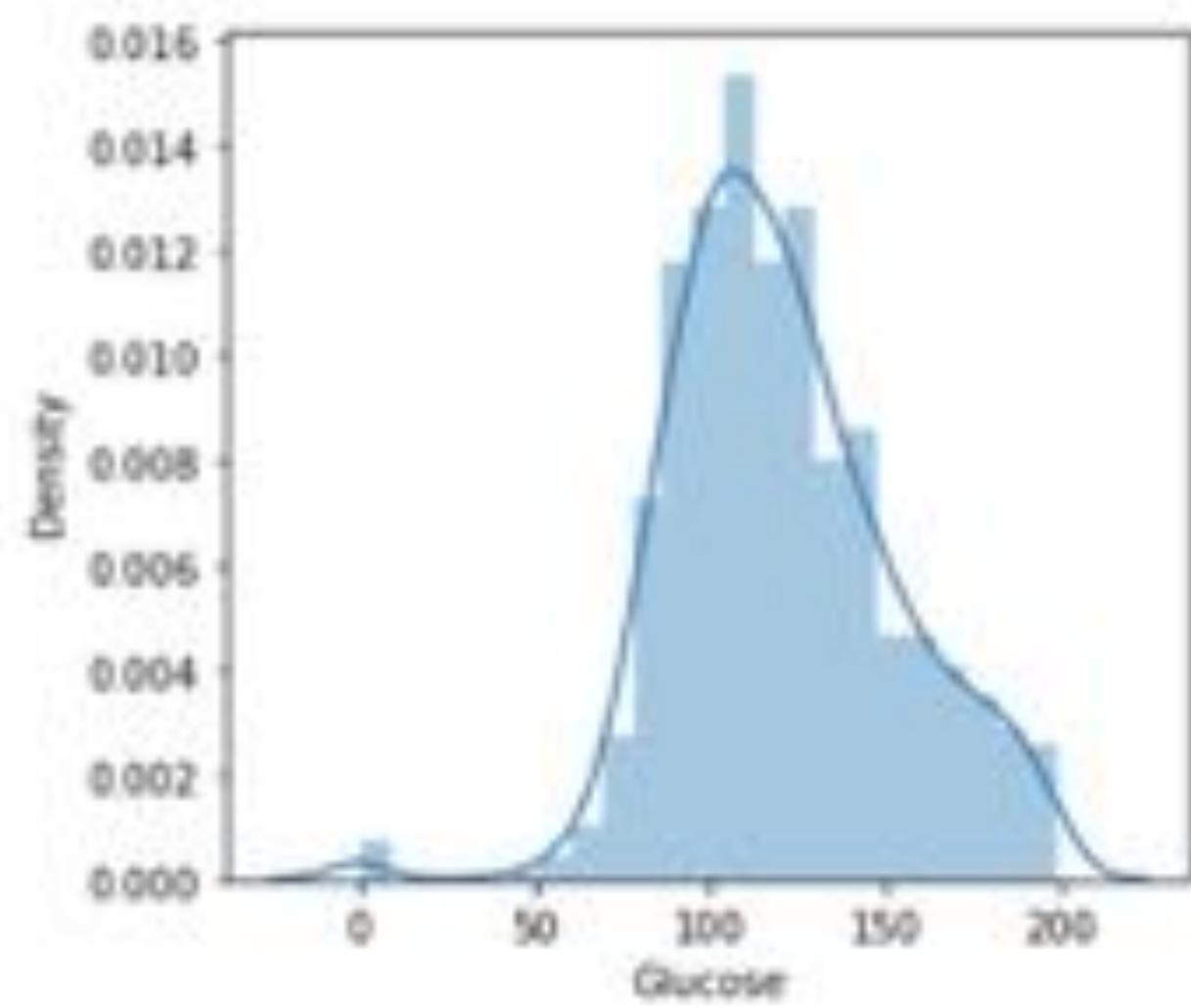
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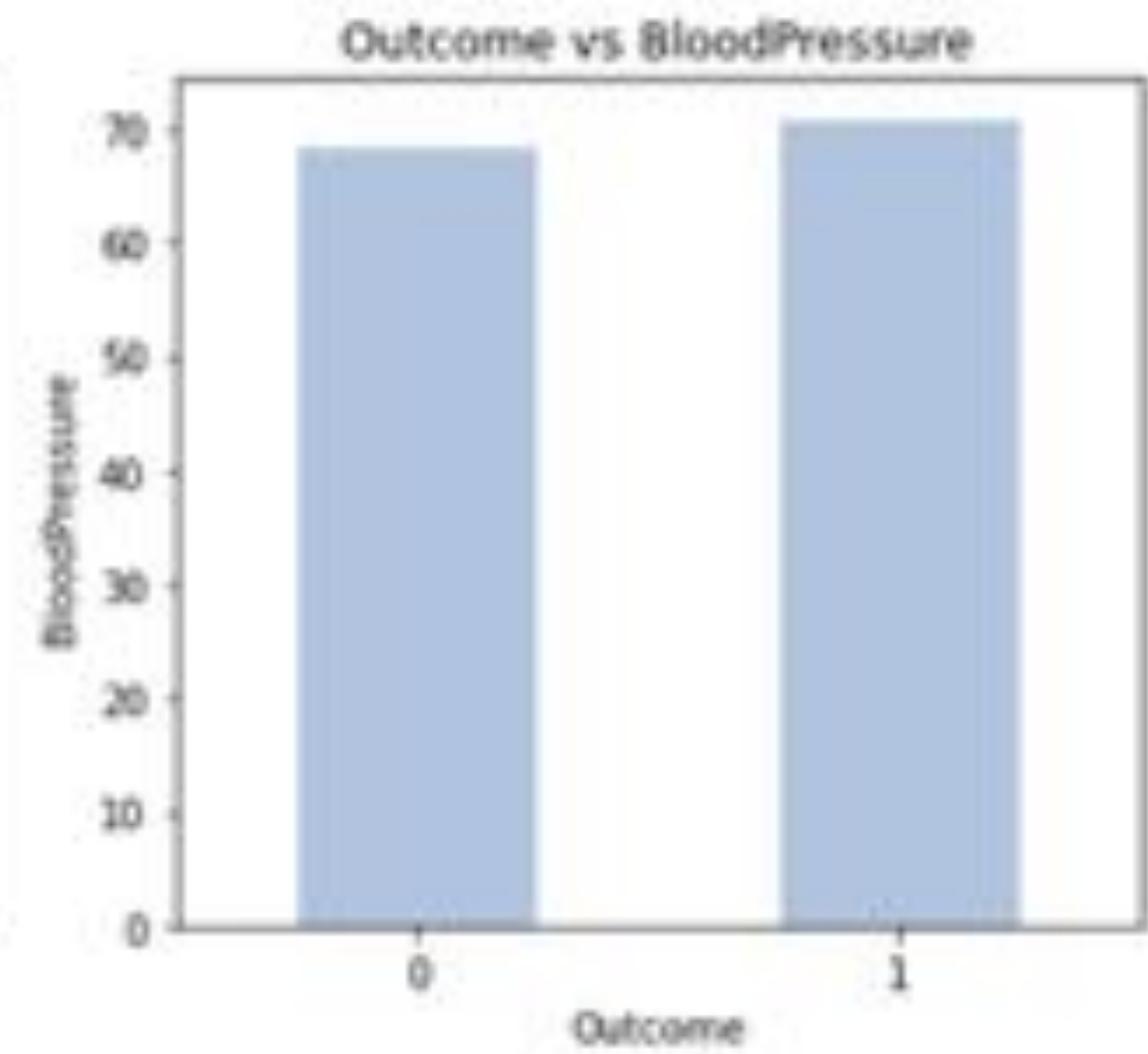
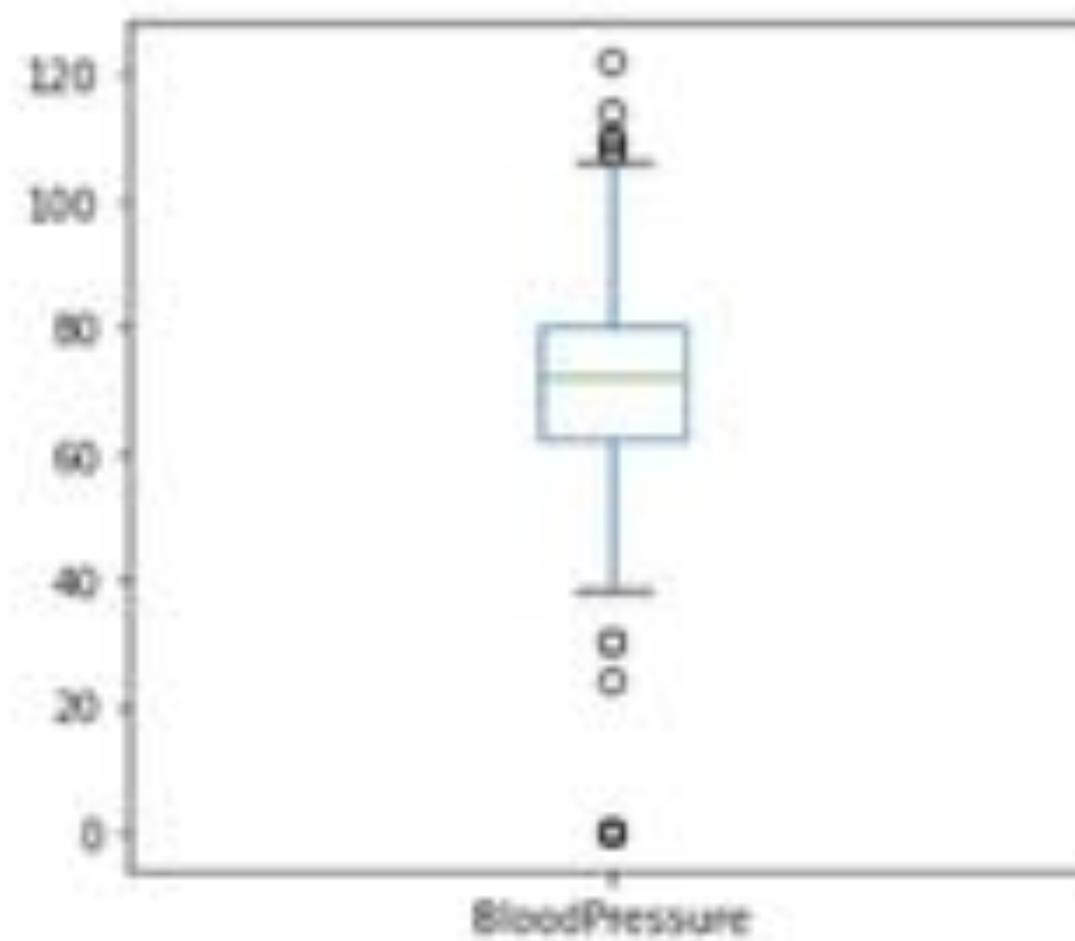
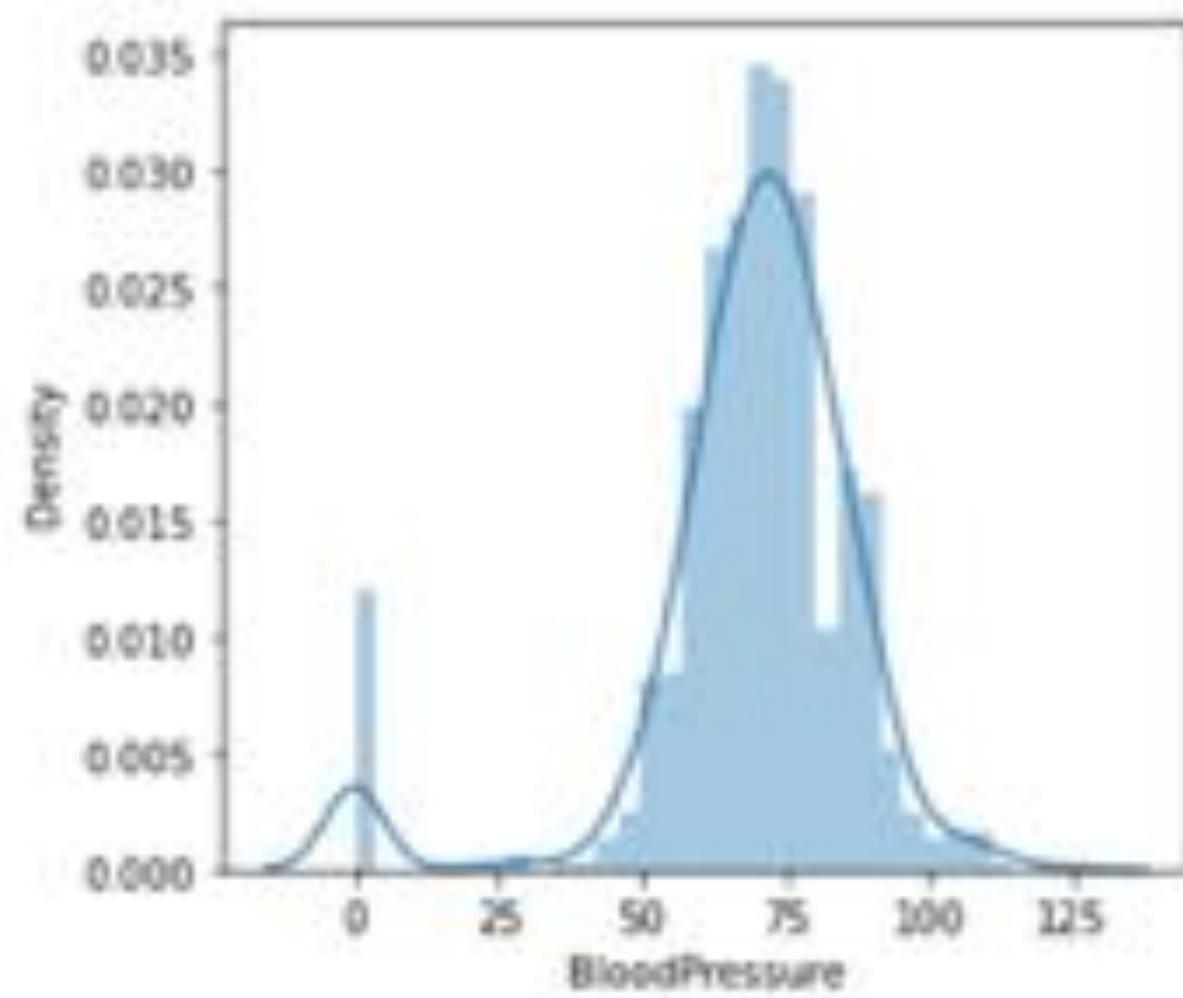
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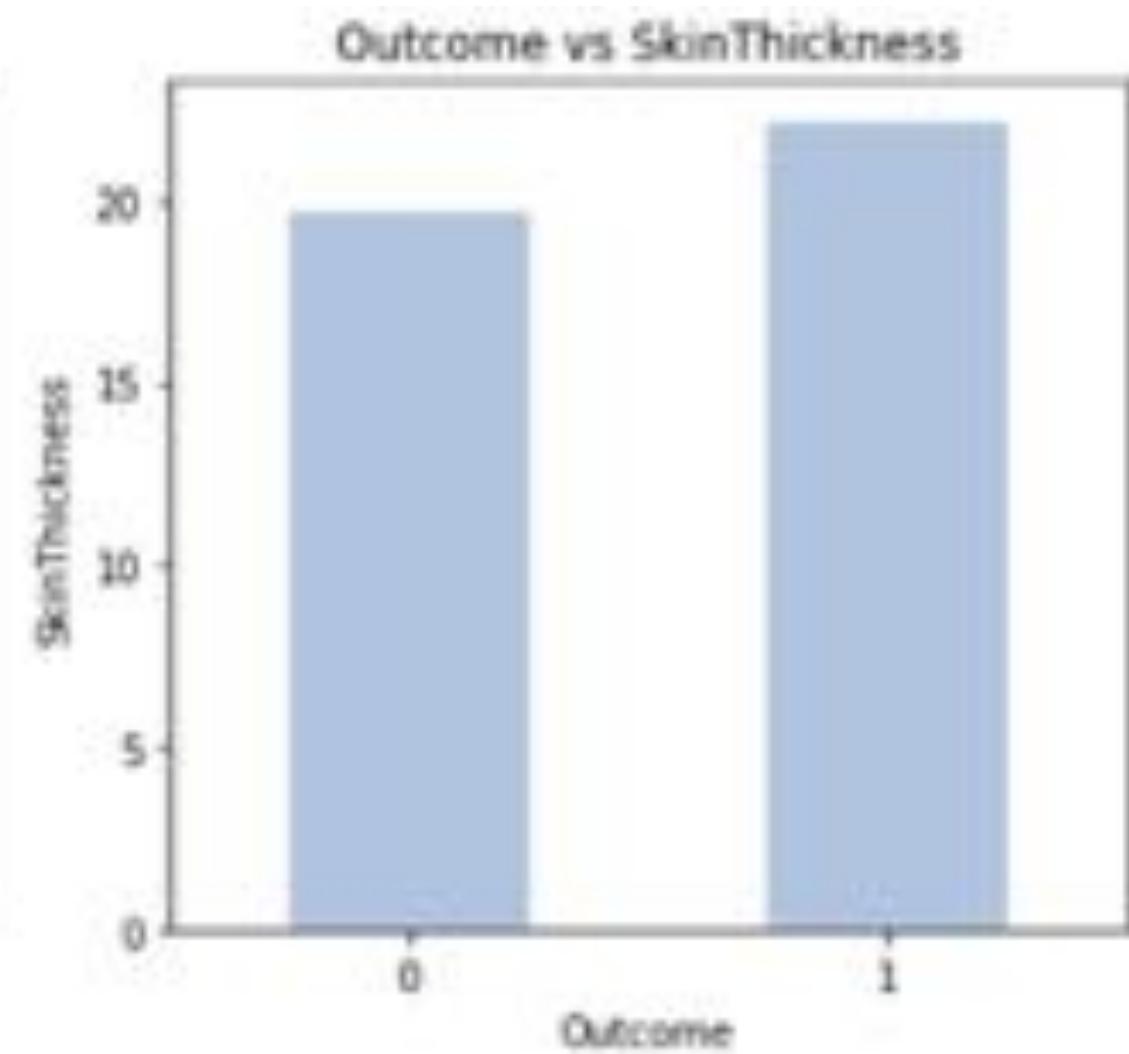
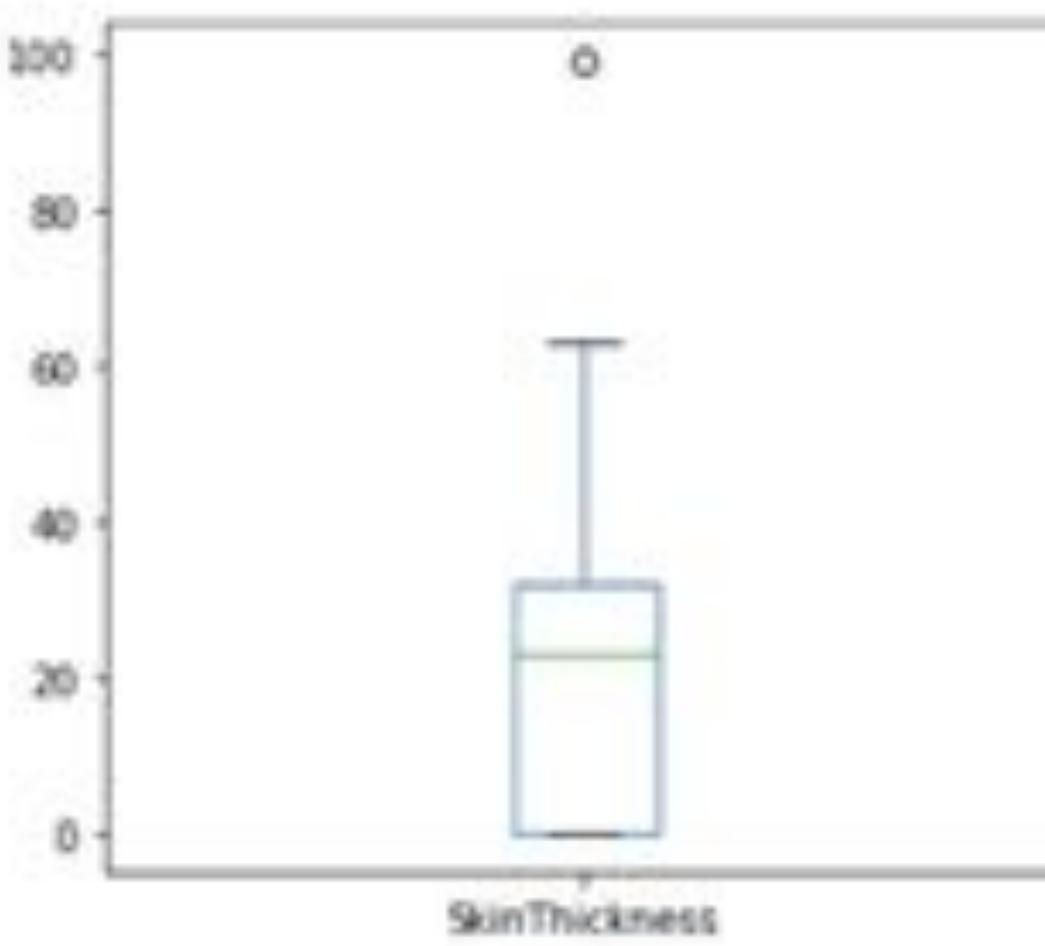
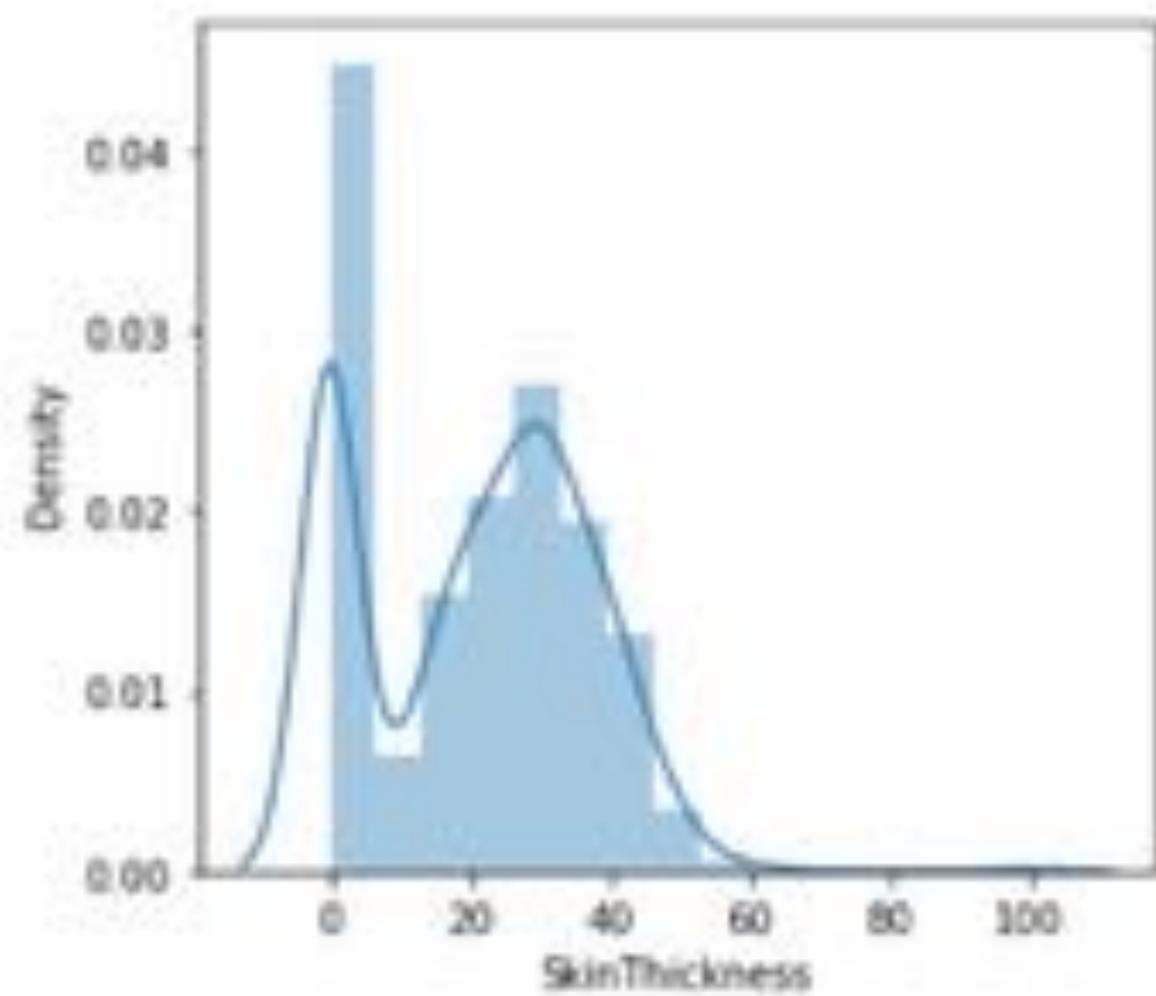
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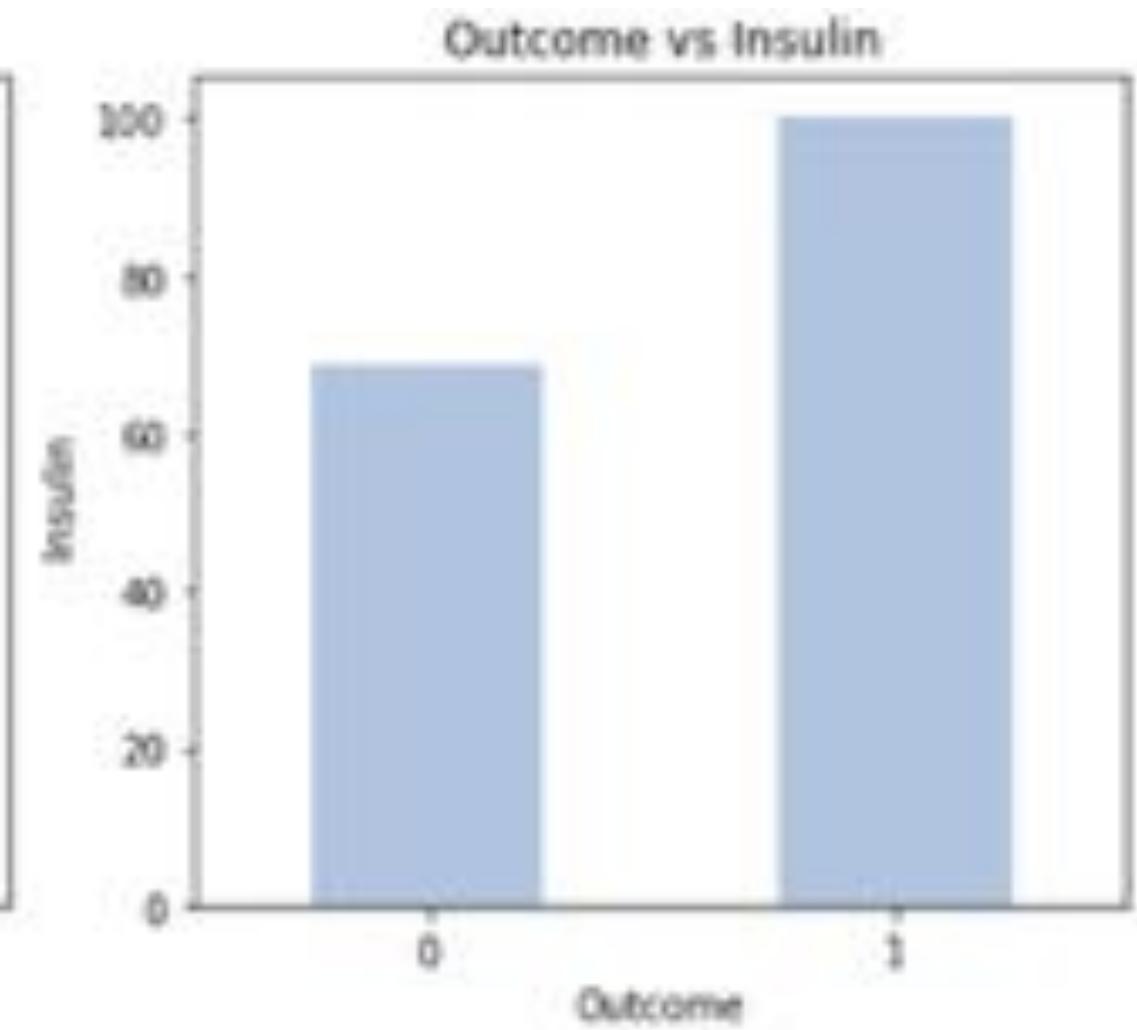
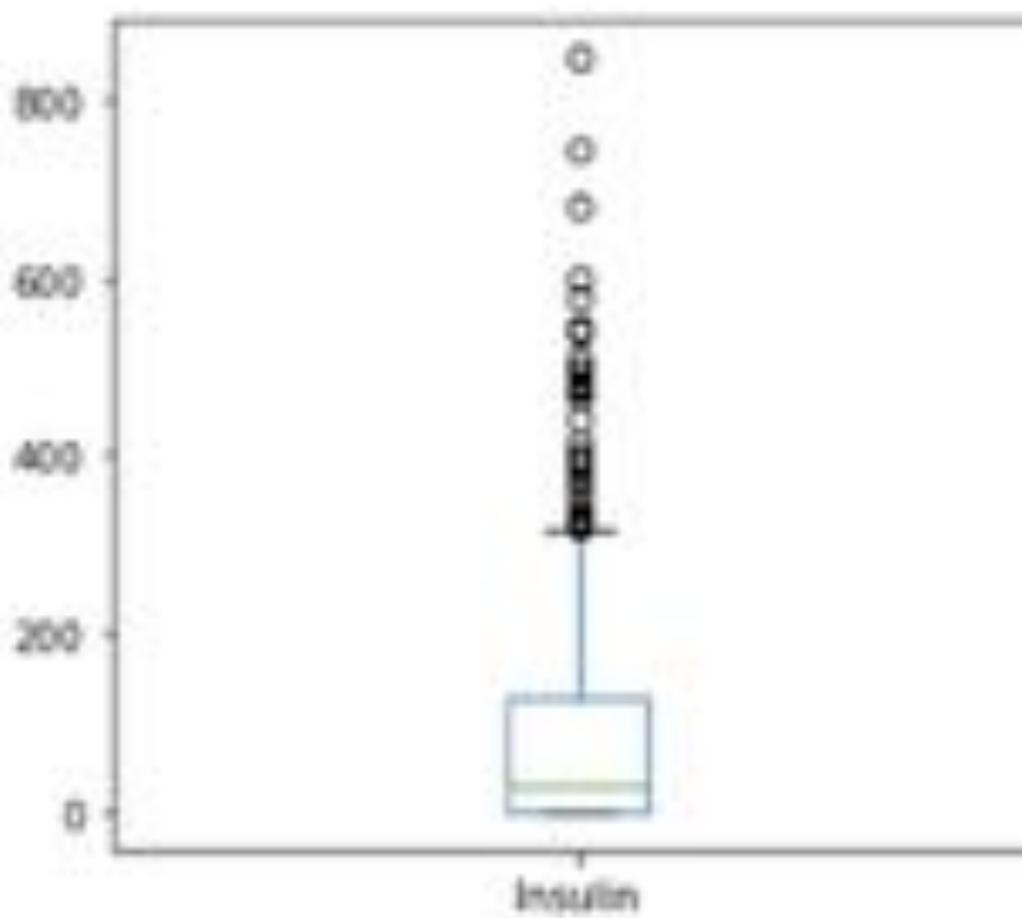
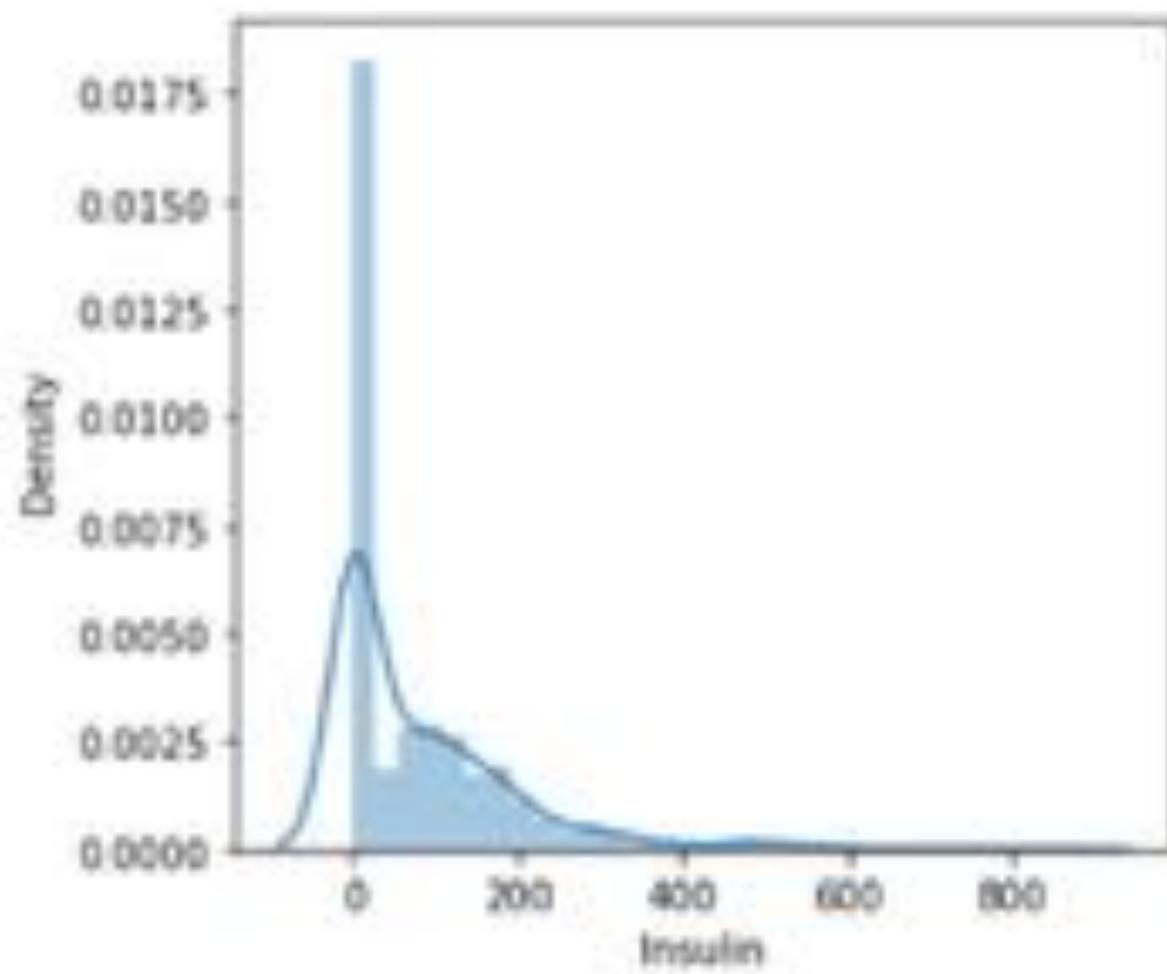
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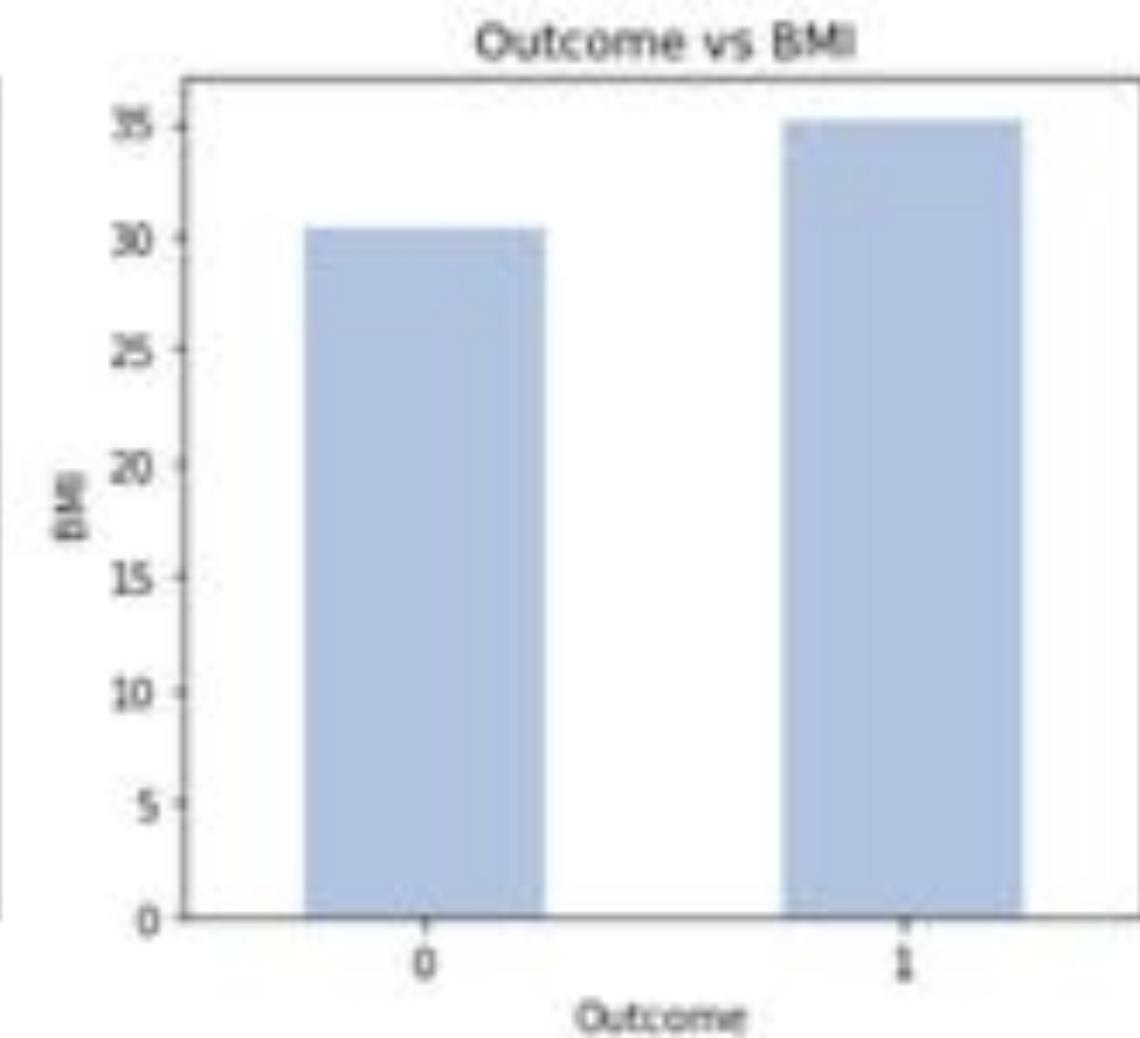
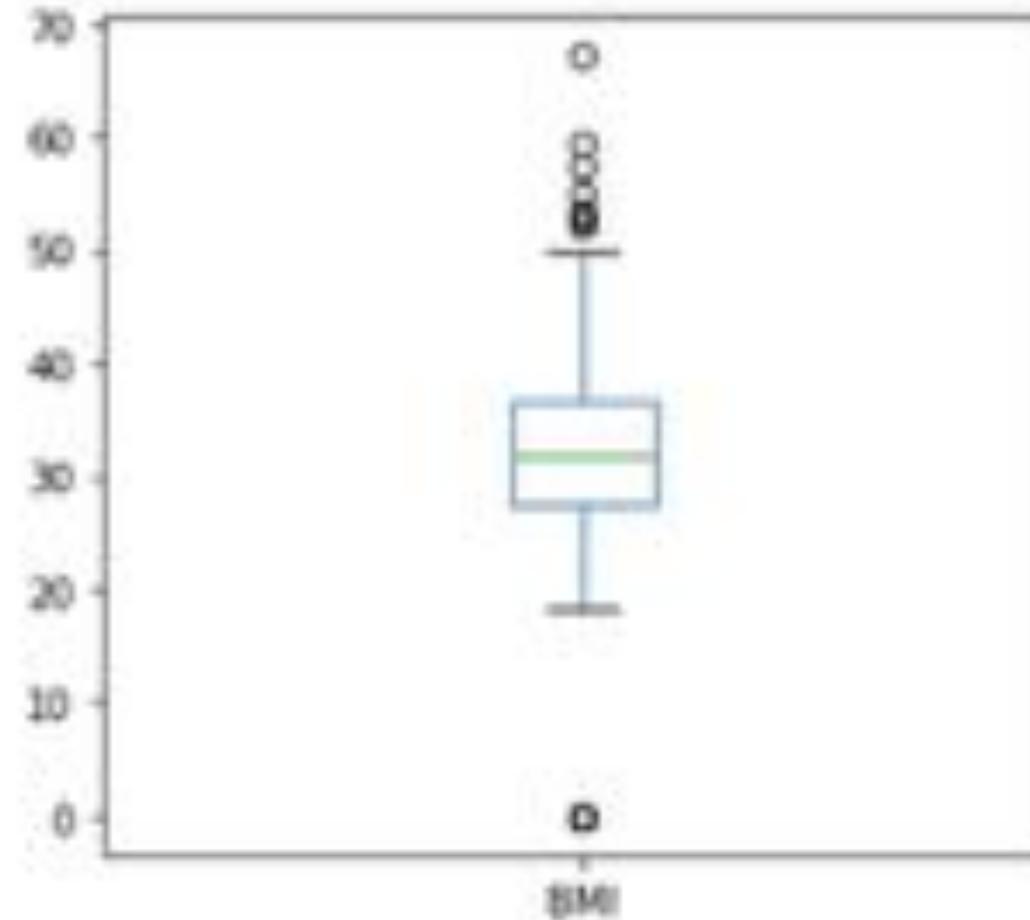
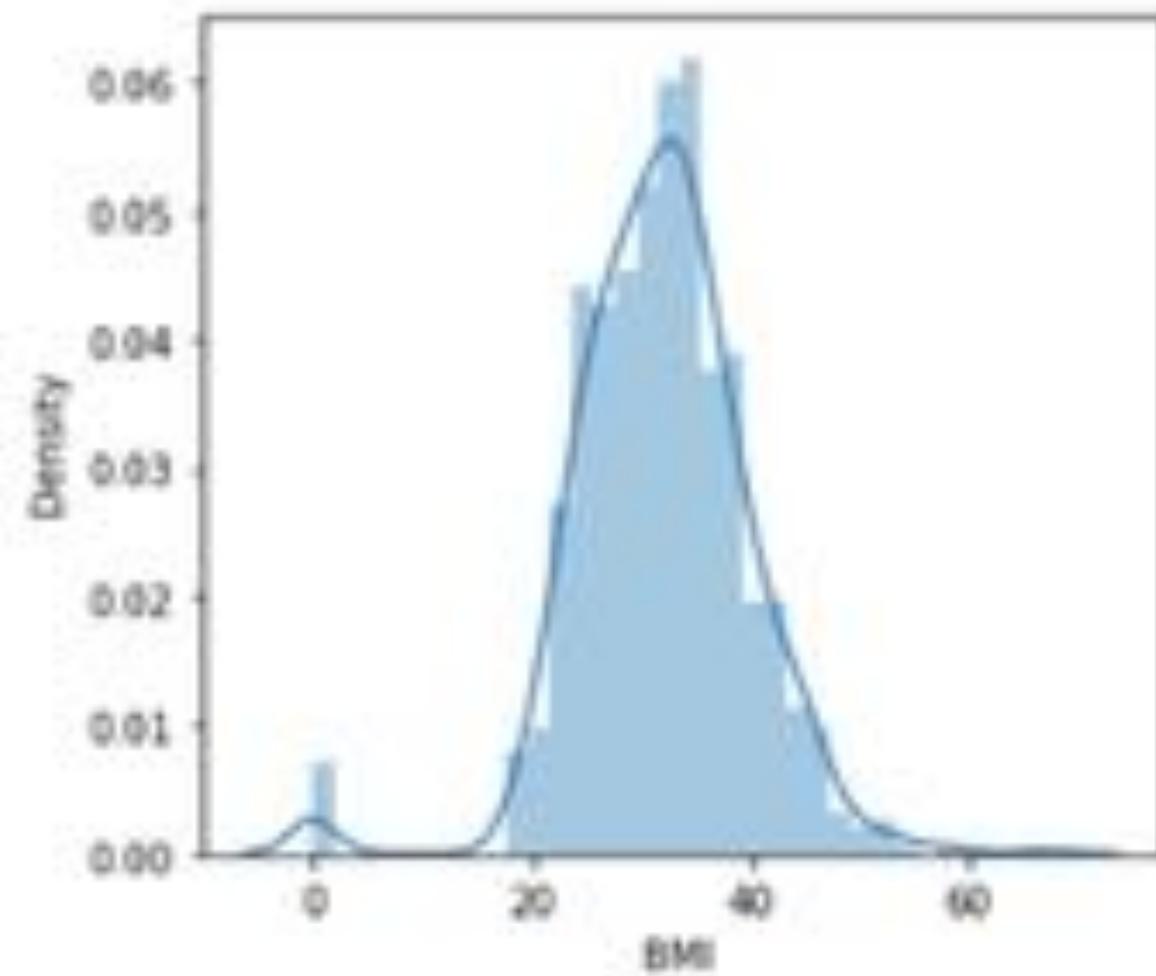
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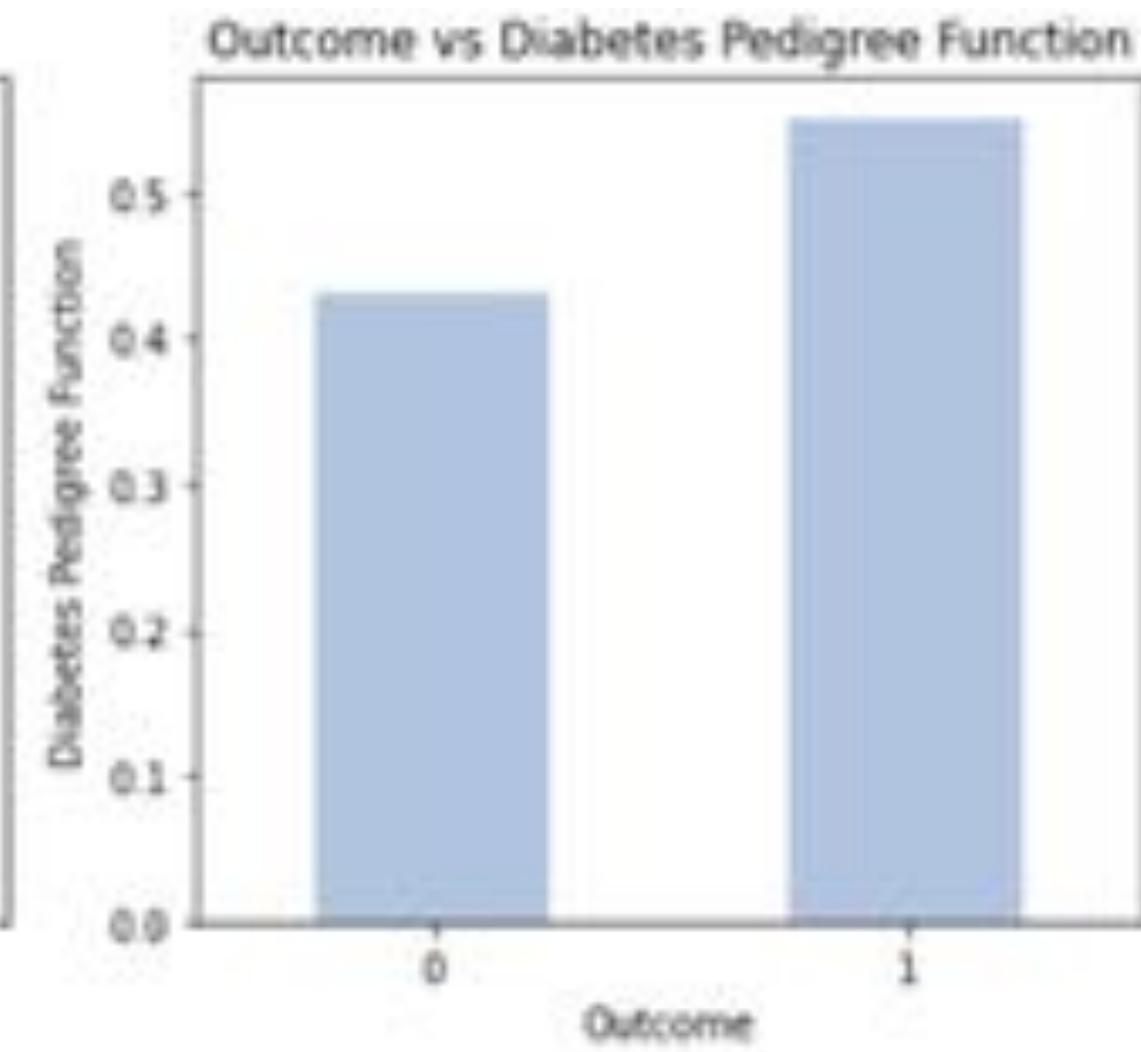
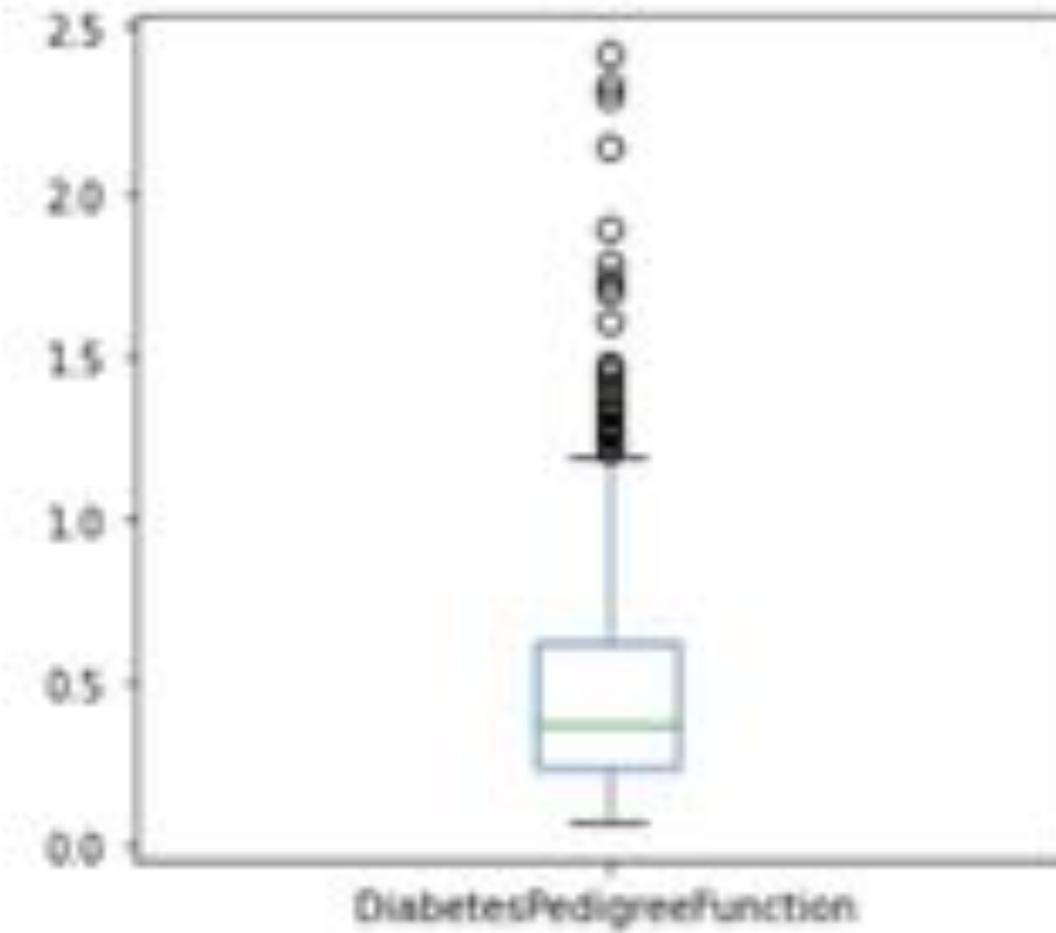
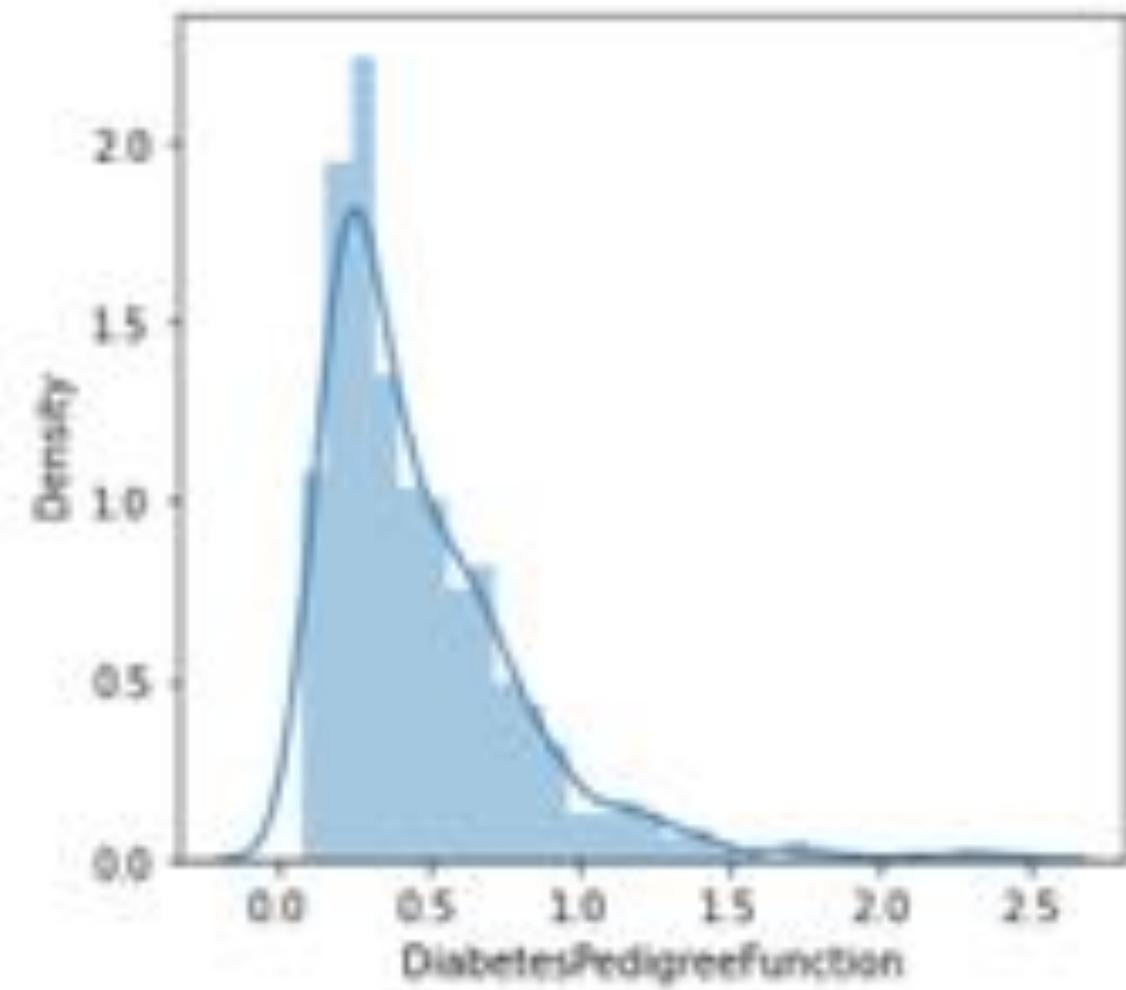
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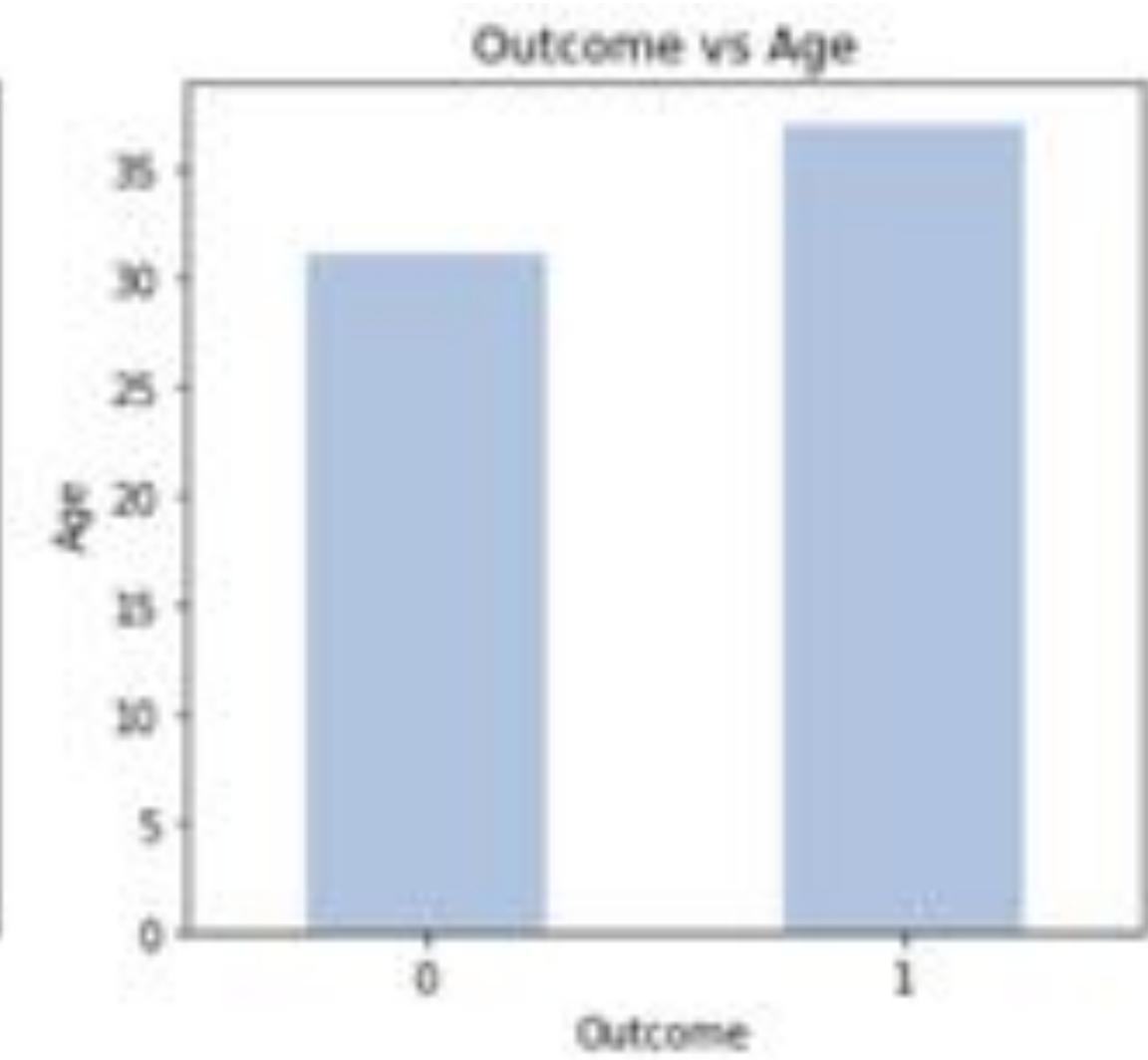
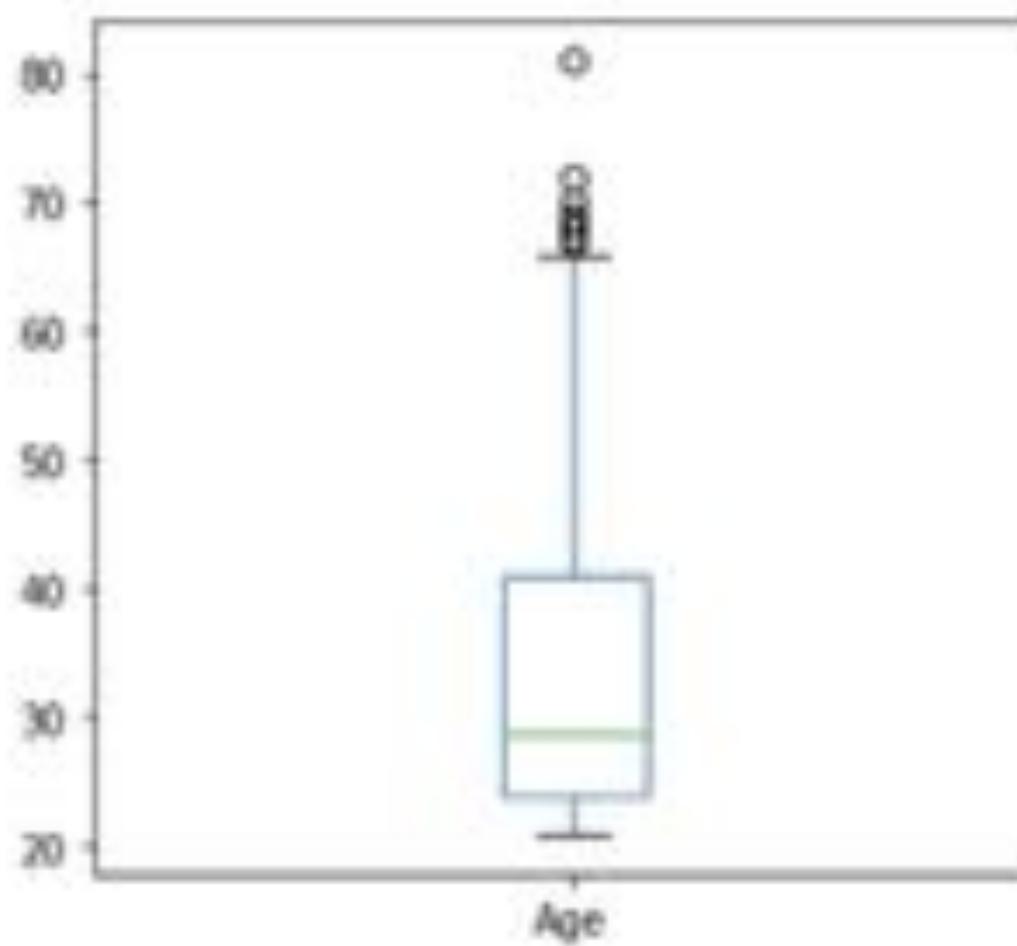
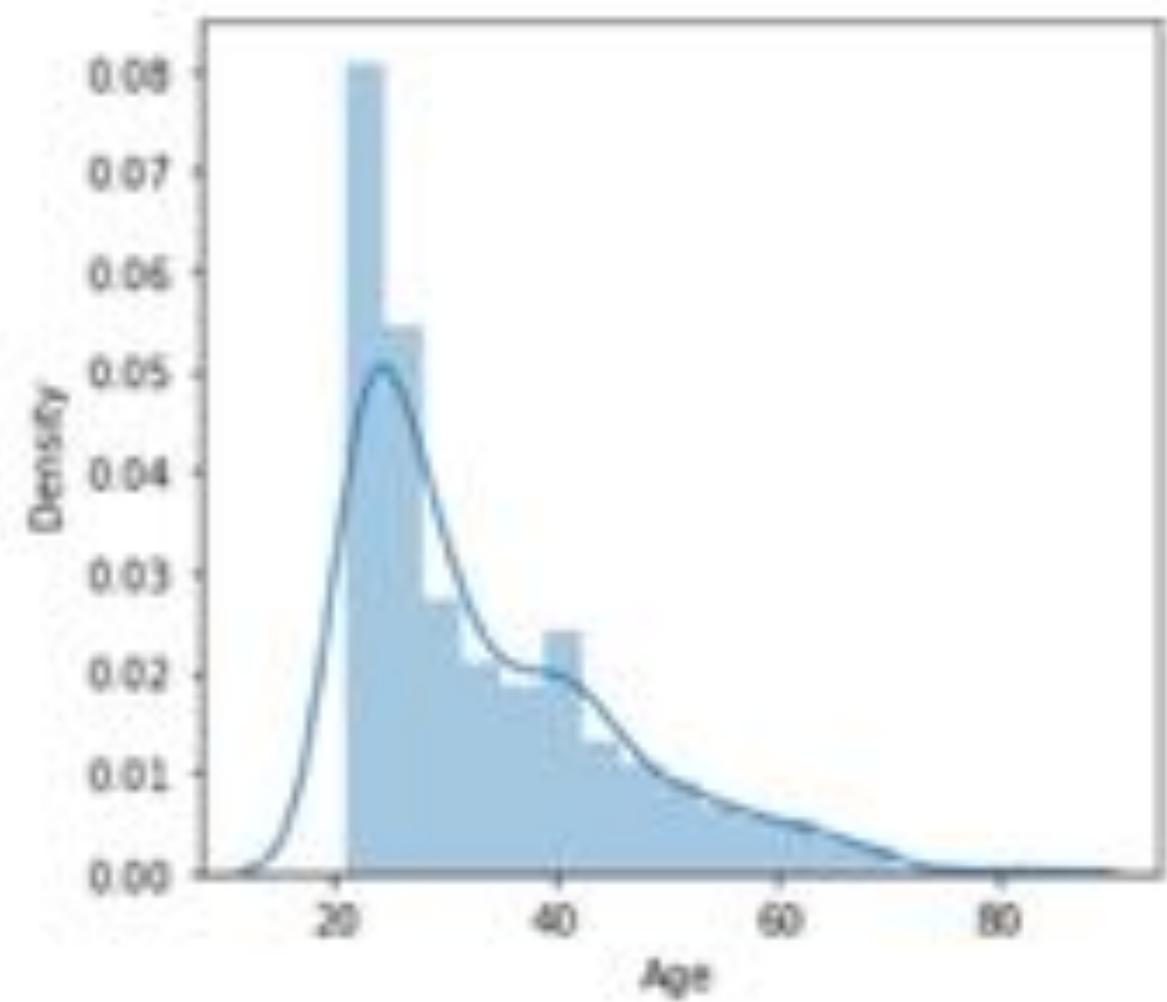
EXPOLARITY DATA ANALYSIS



EXPOLARITY DATA ANALYSIS



EXPOLARITY DATA ANALYSIS



CONT: EDA

Relationship between target
and predictors



DATA PRE-PROCESSING

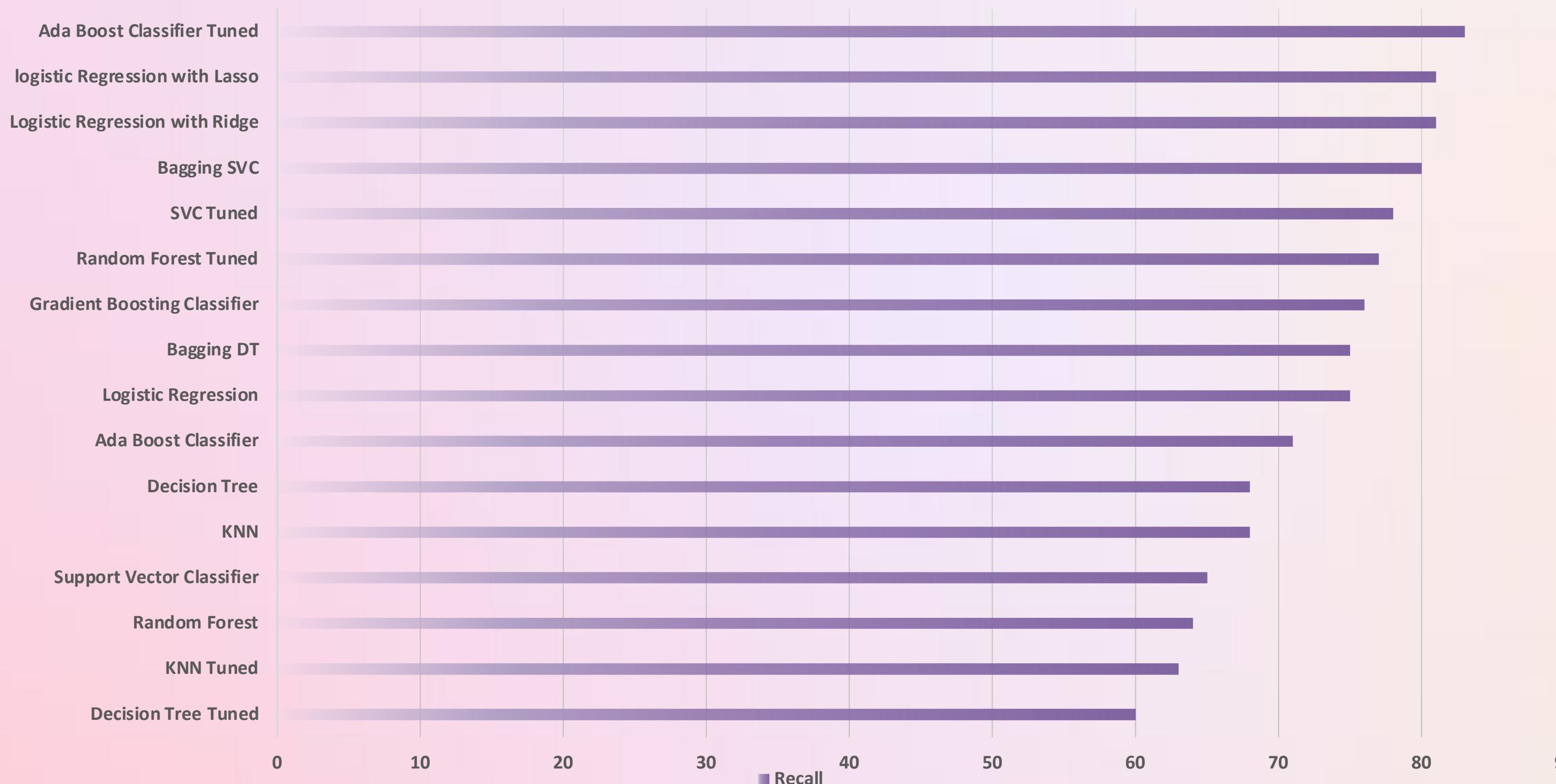
Outliers Handling

Handle Zeros

Scaling Data

**Split into
Train and Test**

MODEL EXPERIMENTS & EVALUATION:



BEST PREFORMED ALGORITHM:

Ada Boost

Recall = 84%

AUC = 76%

Logistic Regression L2

Recall = 81%

AUC = 80%

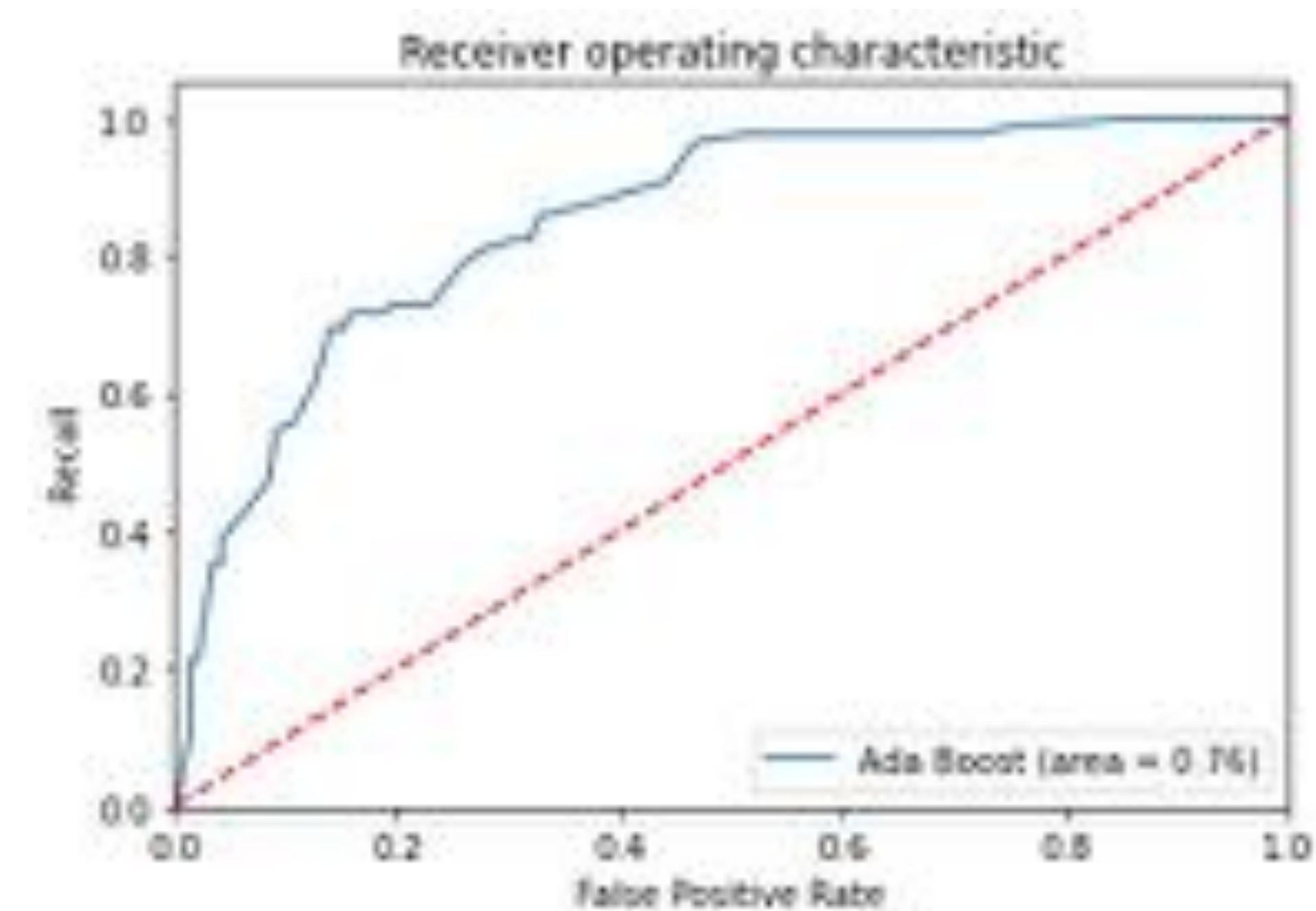
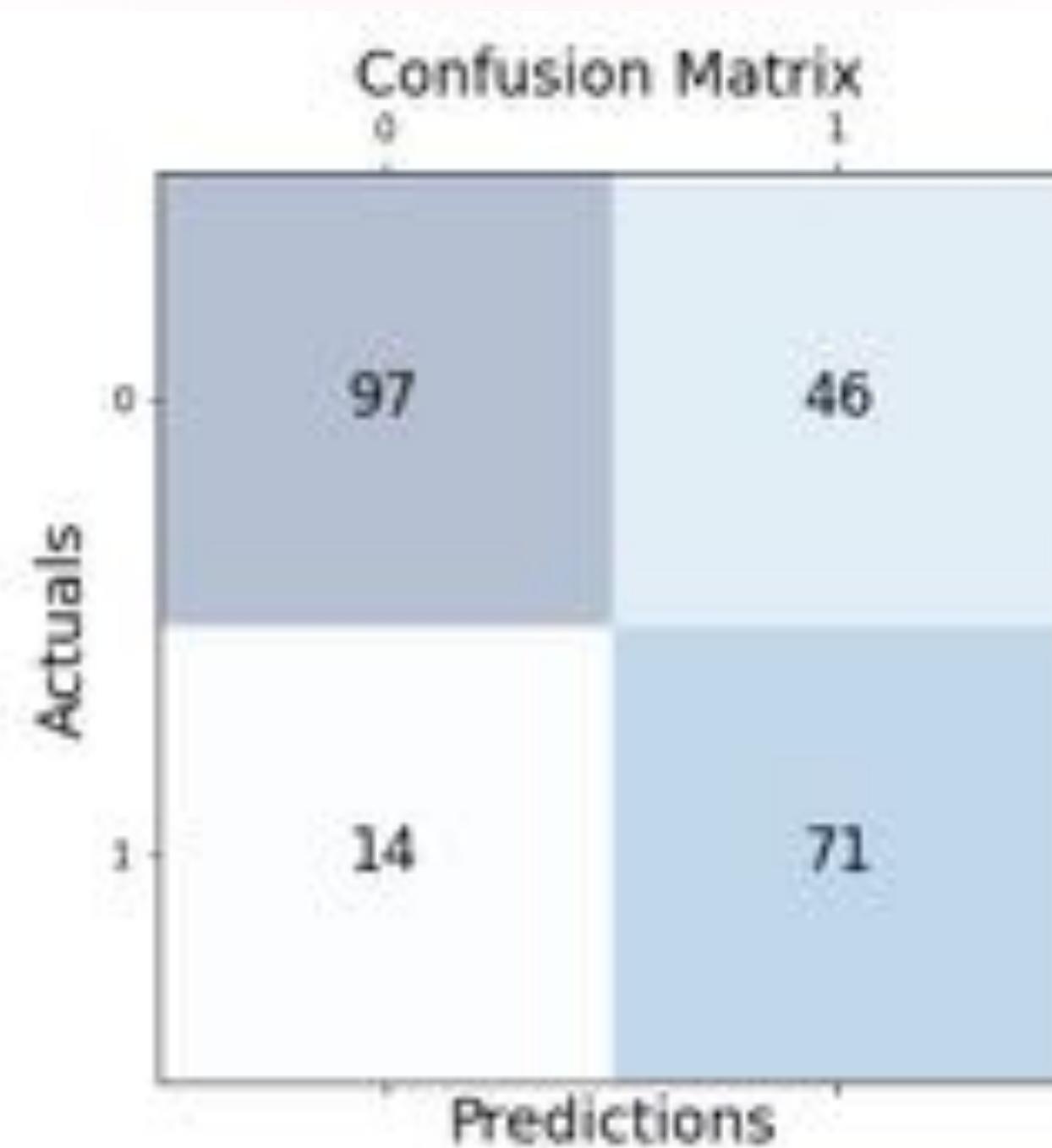
Logistic Regression L1

Recall = 81%

AUC = 81%

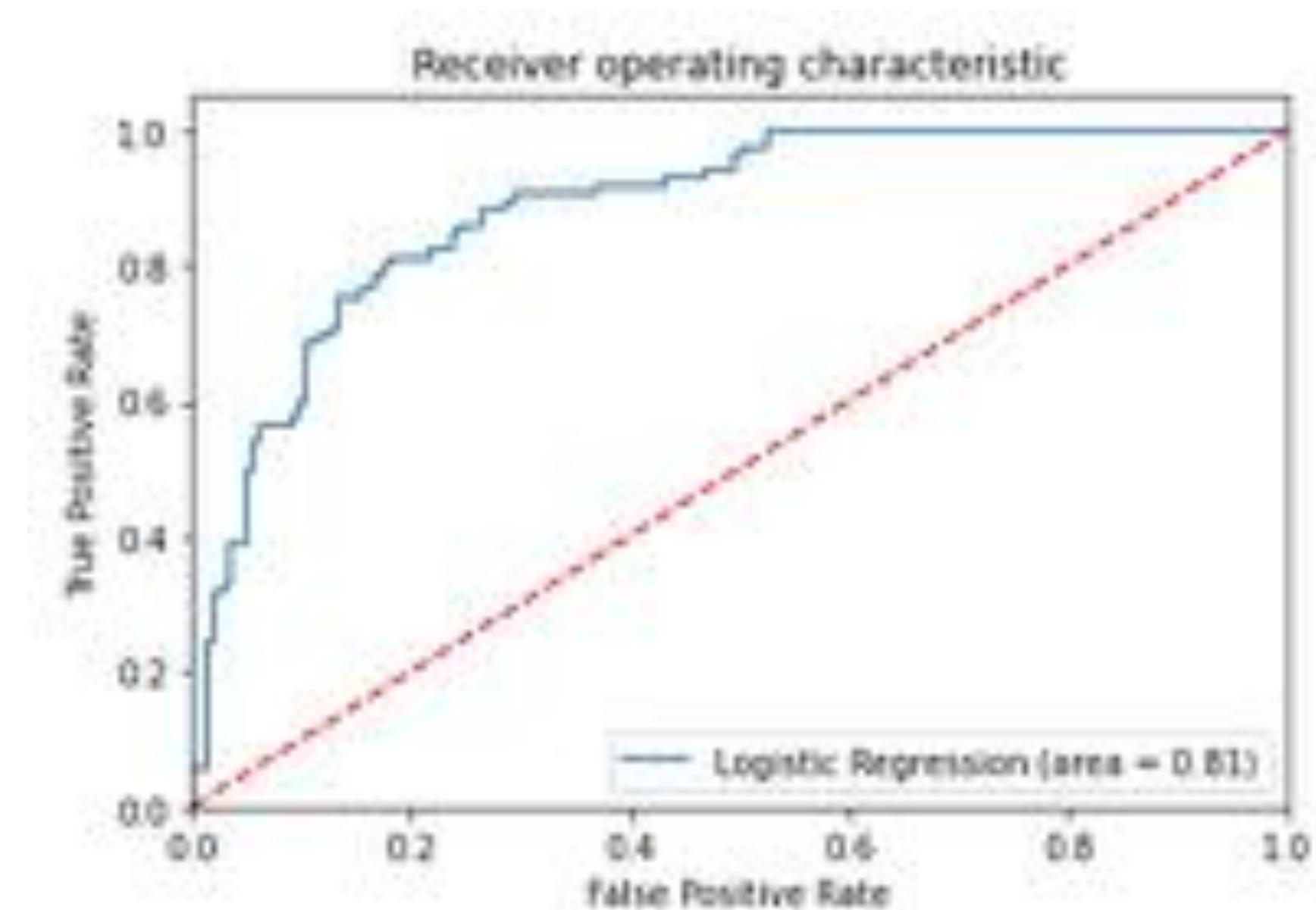
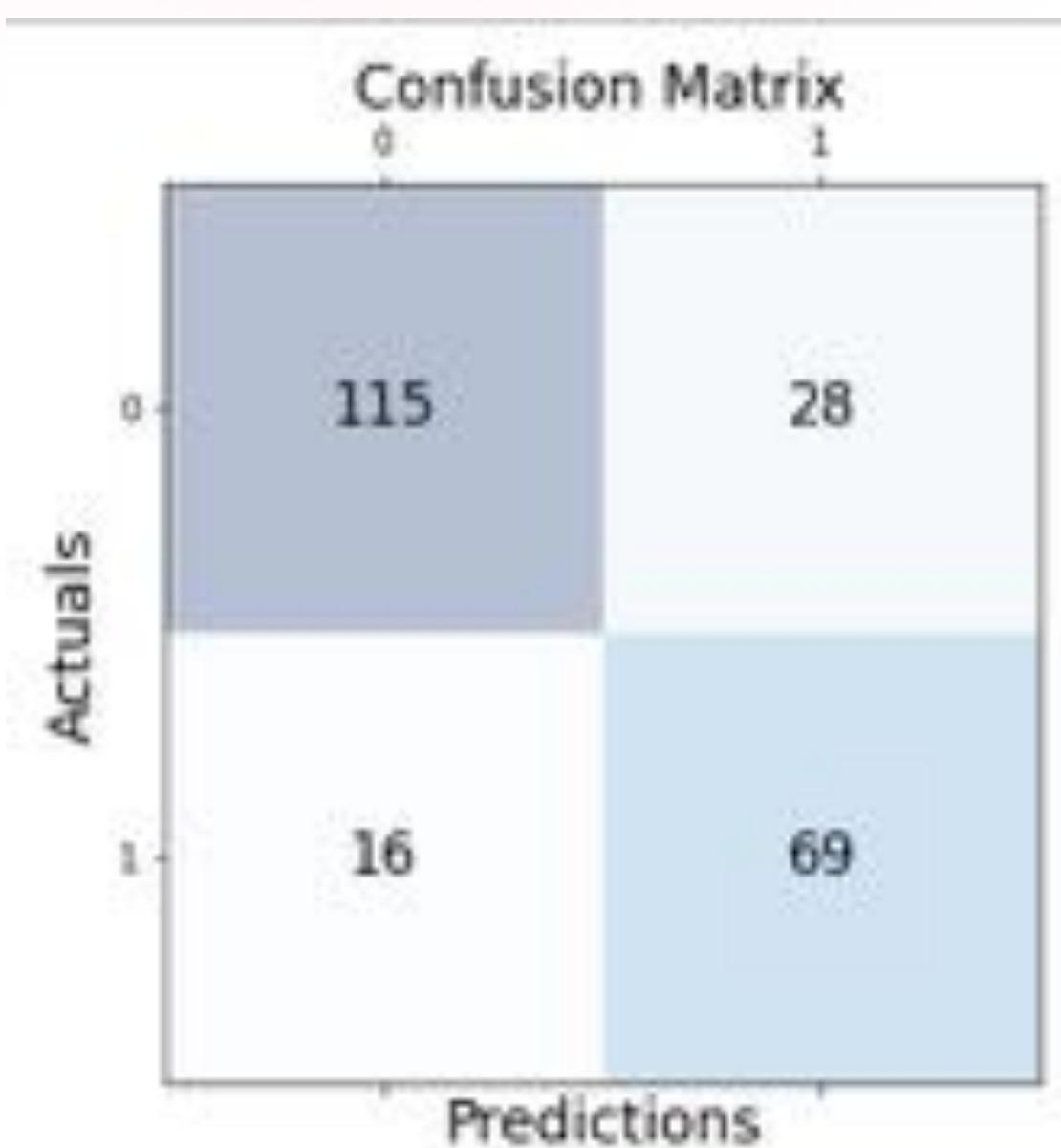
ADA BOOST CLASSIFIER

Confusion matrix & ROC Curve Plot



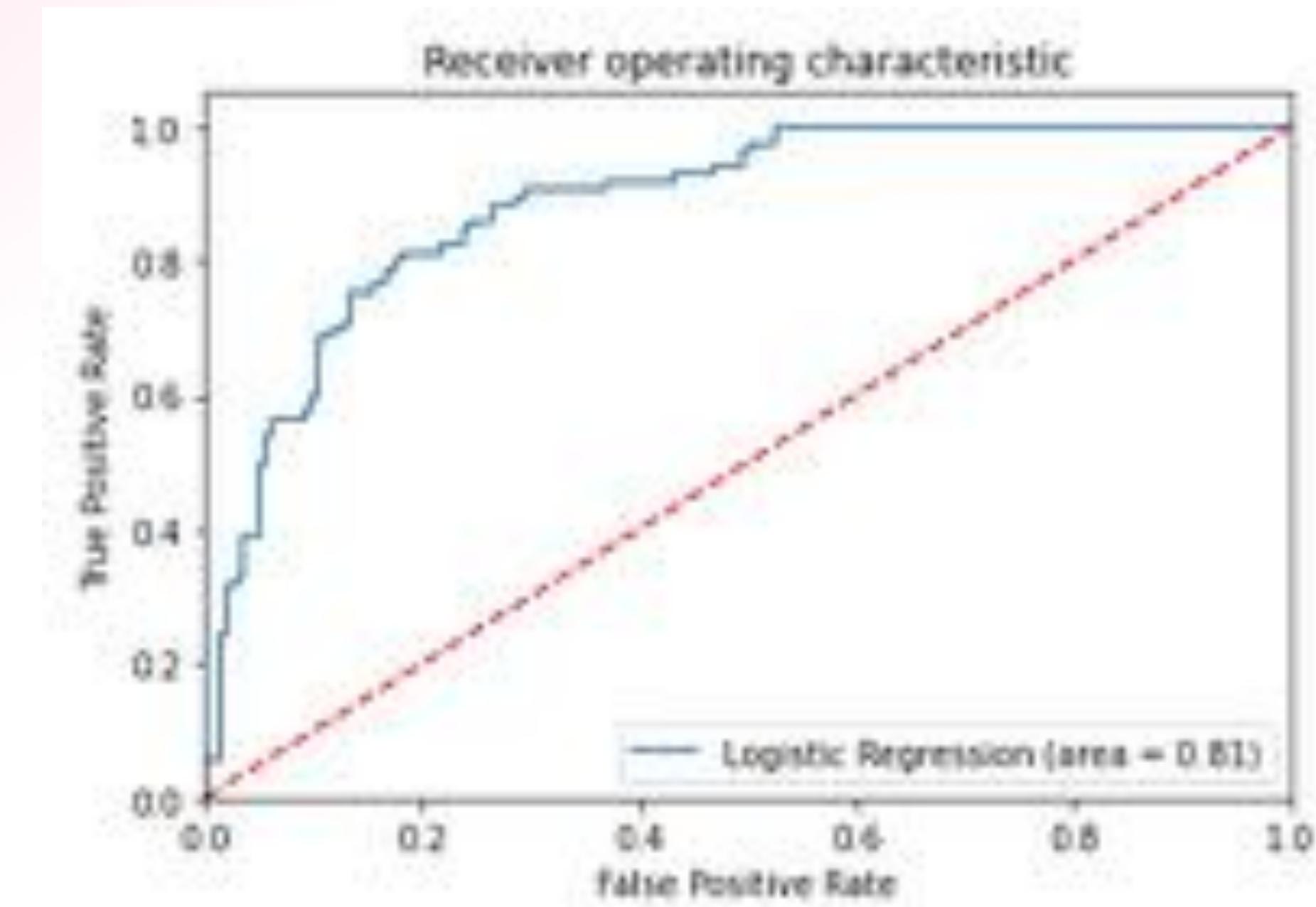
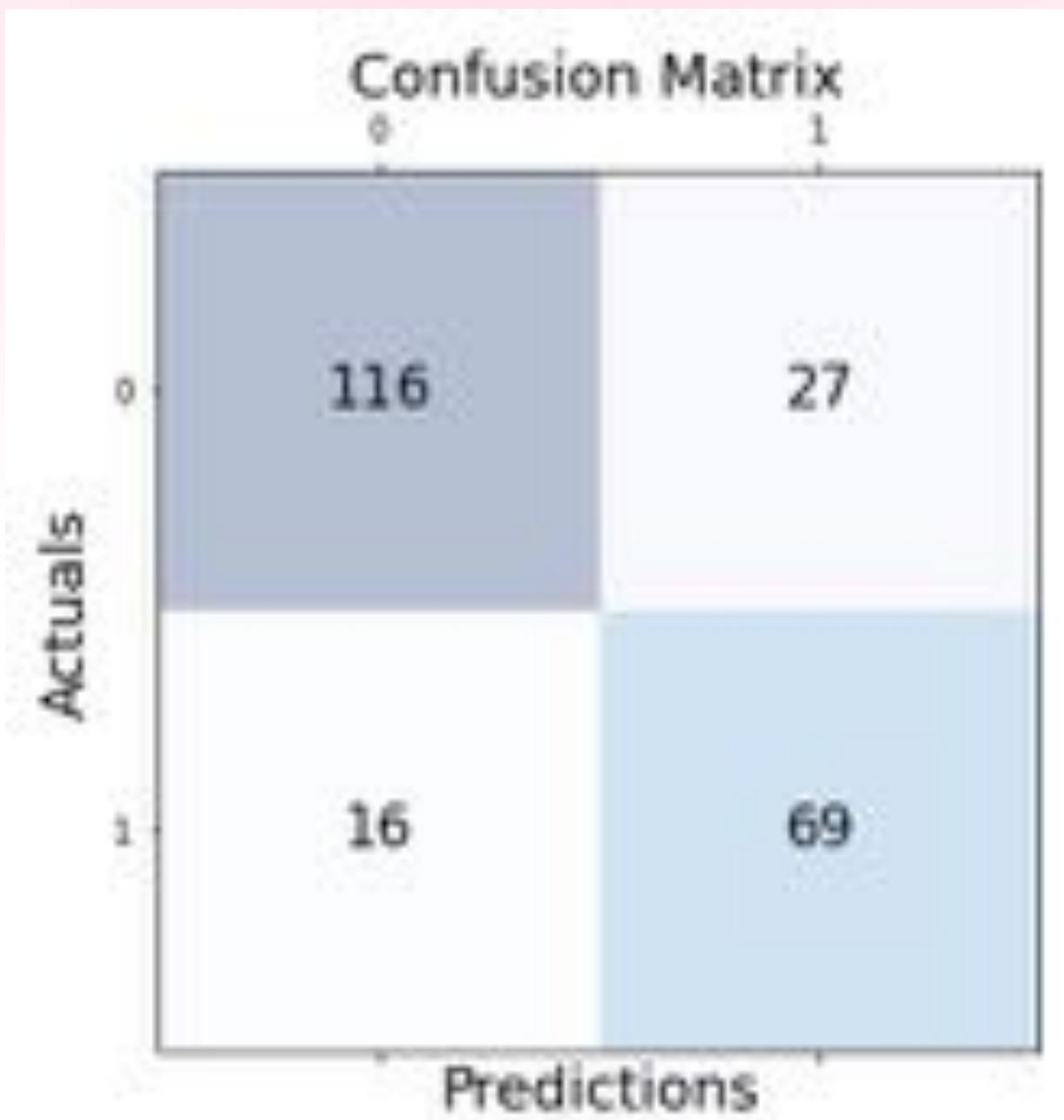
LOGISTIC REGRESSION L2:

Confusion matrix & ROC Curve Plot



LOGISTIC REGRESSION L1

Confusion matrix & ROC Curve Plot



DIABETES PREDICTION APP

Diabetes Prediction App

Pregancies:

Glucose:

Blood Pressure:

Skin Thickness:

Insulin:

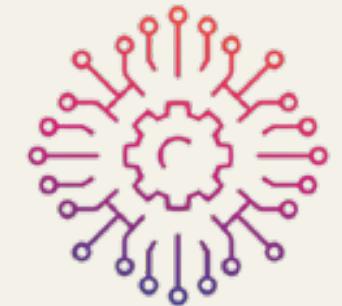
BMI:

Diabetes Pedigree Function:

Age:

Submit

FUTURE WORK



Collect more data about diabetes and analyze them

For better predictions



Build a system that helps people in getting an initial information

CONCLUSION



THANK YOU FOR
LISTENING!