Report on Healthcare Survey pertaining to Medical Analysis

- **By**
- **Gopalakrishnan Kumar, IIT-B Alumnus,**
- **Freelance Data Science Consultant.**
- LinkedIn URL – **https://www.linkedin.com/in/gopalakrishnan-kumar-a73301110/**
- Git Repository **https://github.com/Gopalakrishnan-Kumar/Python-for-Data-Science**
- Website/blog URL **https://www.kaggle.com/gopalkk1**

Methods and Techniques Adopted

- https://colab.research.google.com/drive/1Y7w0ndbf4AbNdfnaW3BwCADA3Kg7qopt
- This is a Classification Problem, dealing with Test Results…

The above is the Google Colab Notebook for the Report..

DATA SOURCE

This dataset contains the following columns:

Name

Age

Gender

Blood Type

Medical Condition

Date of Admission

Doctor

Hospital

Insurance Provider

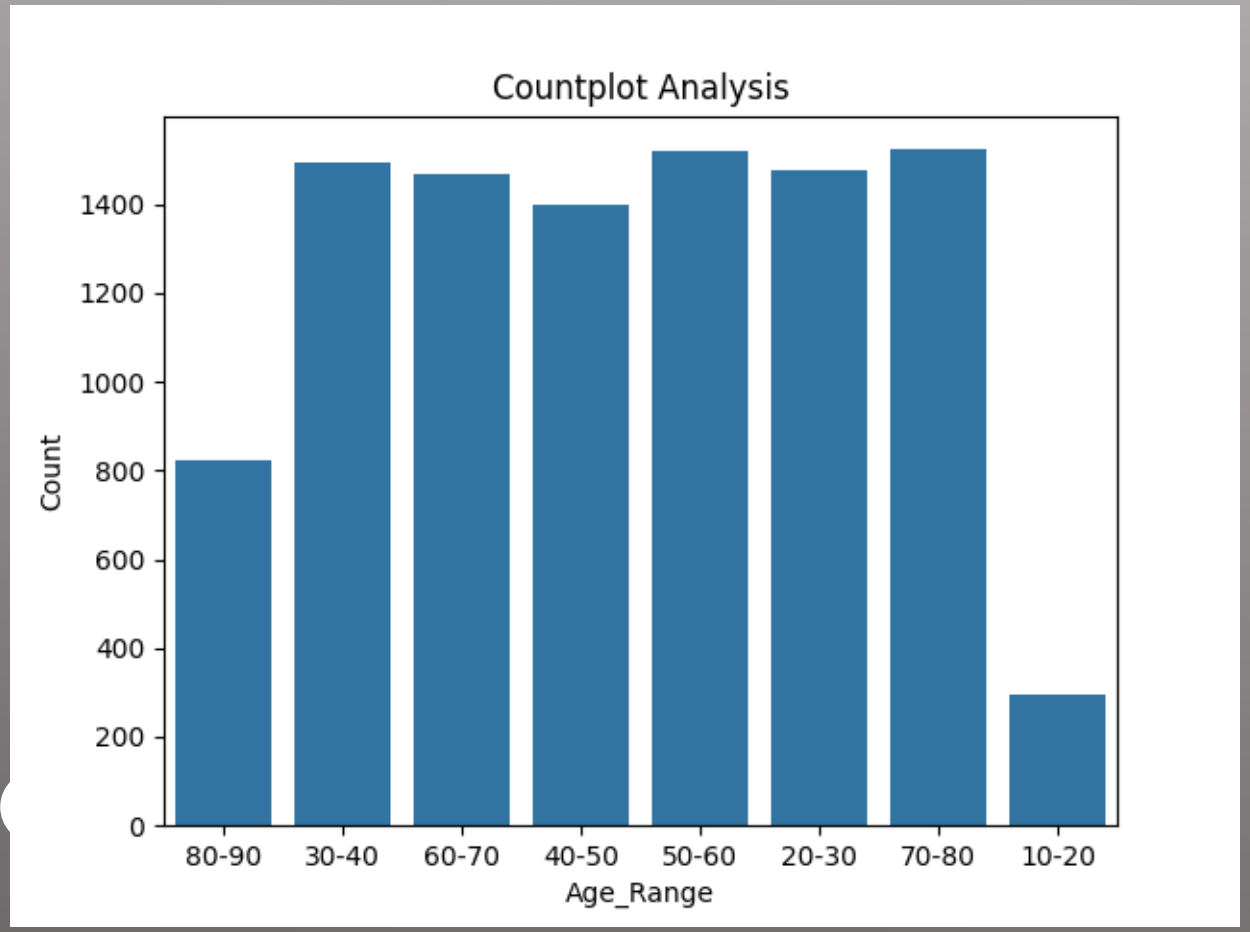
Billing Amount

Room Number

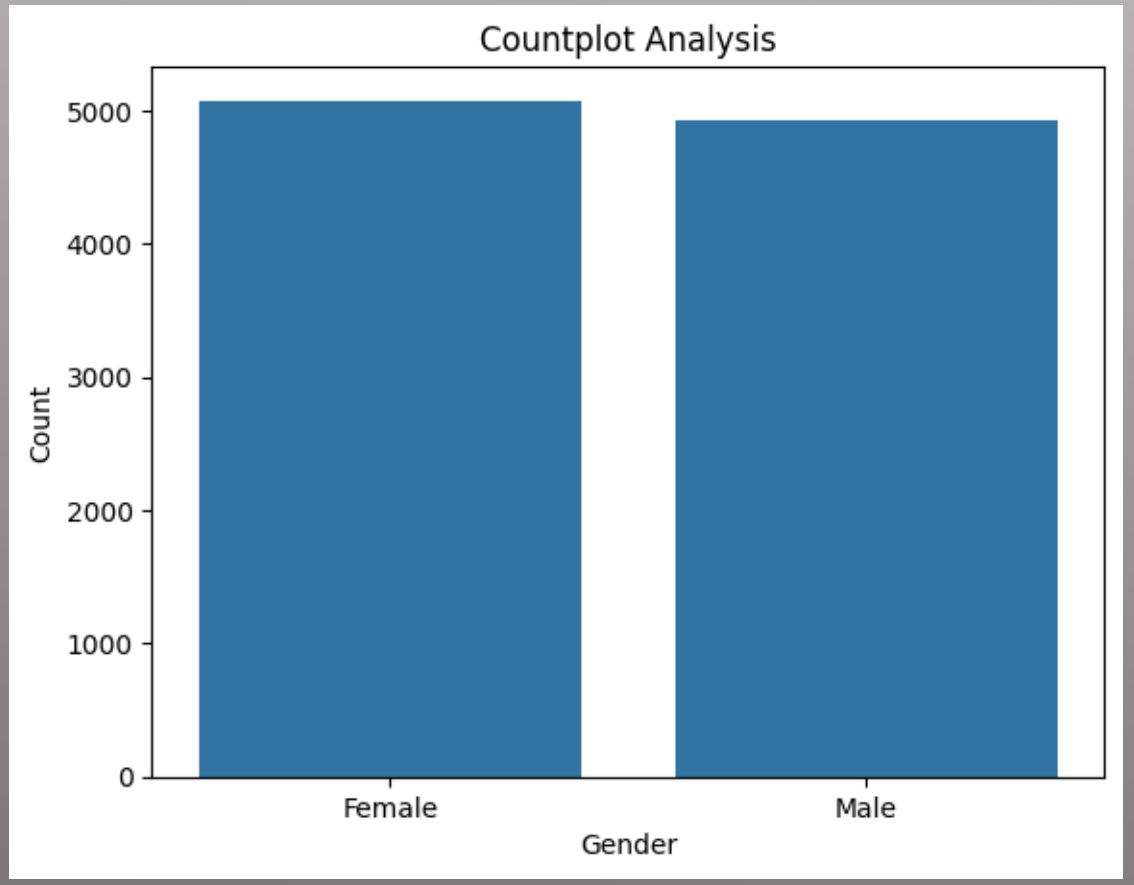
Admission Type

Discharge Date

Medication Test Results

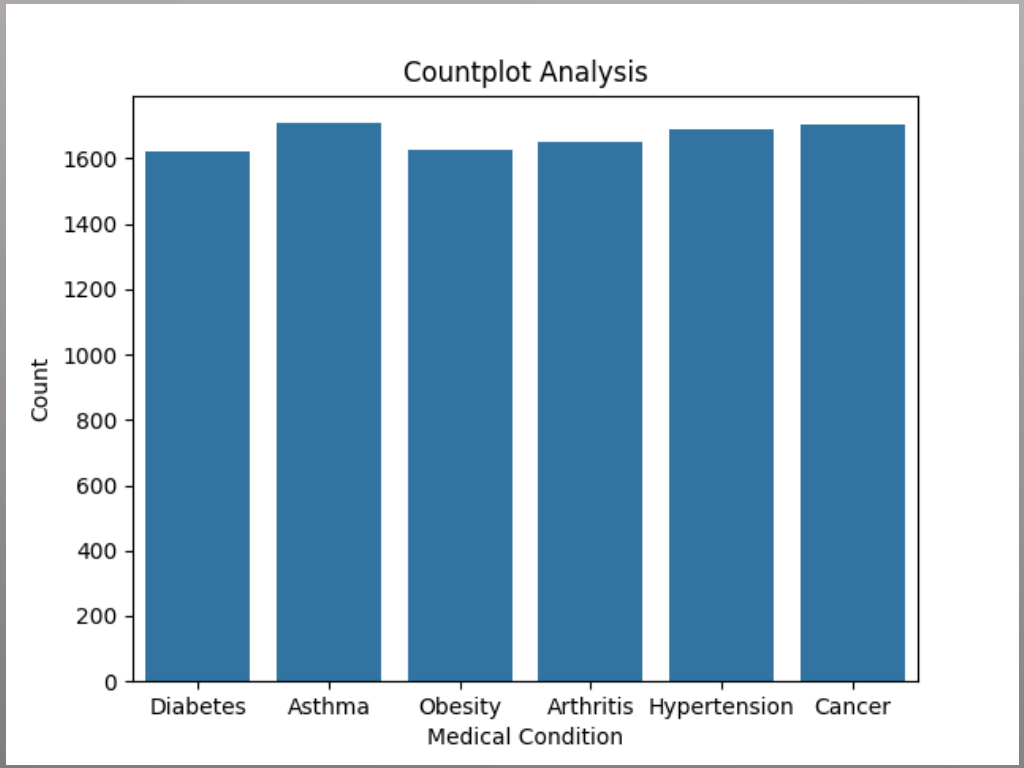


This graph explains frequency of Age Range variable..



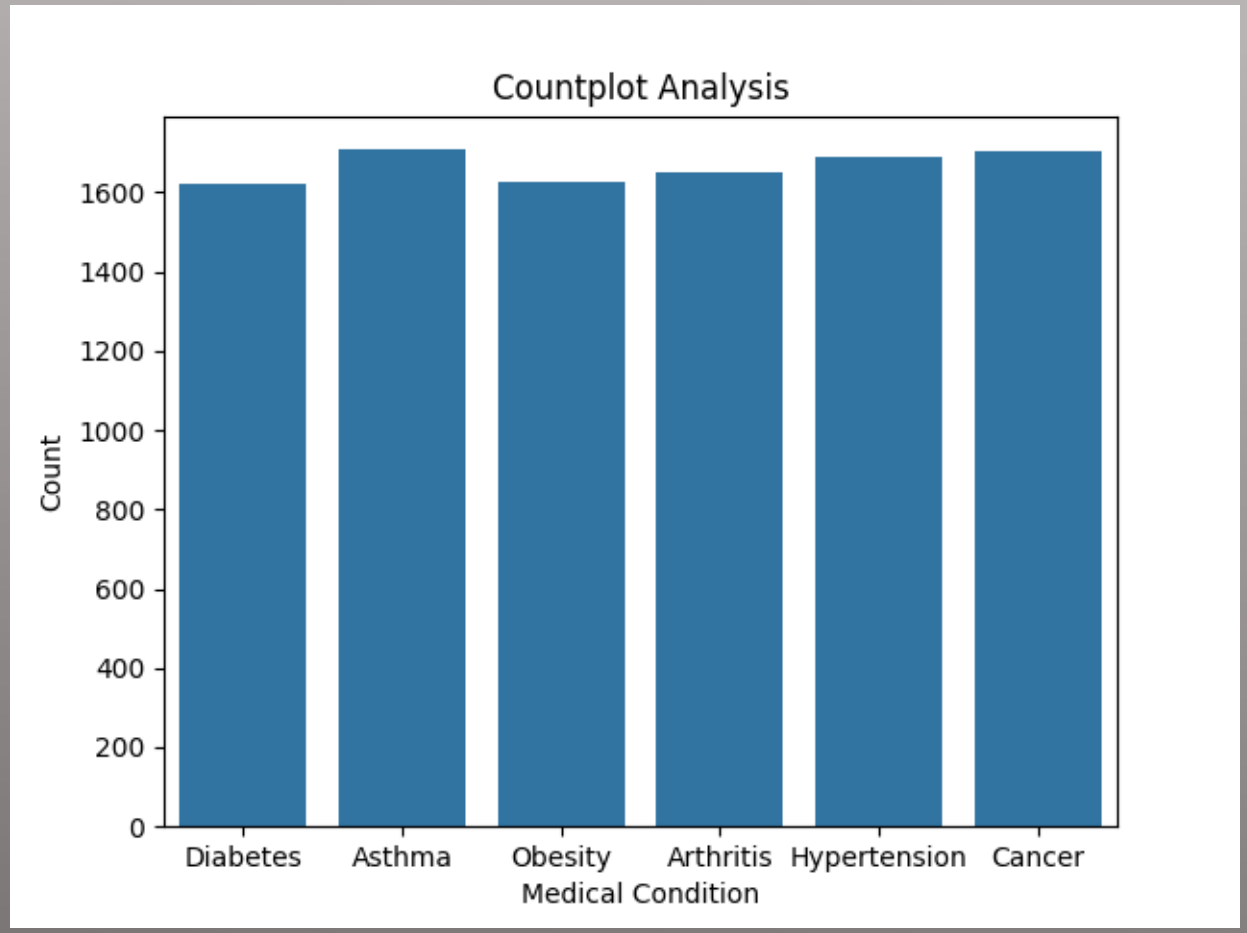
COUNTPLOT OF GENDER

This graph explains frequency of Gender variable..



COUNTPLOT OF BLOOD TYPE

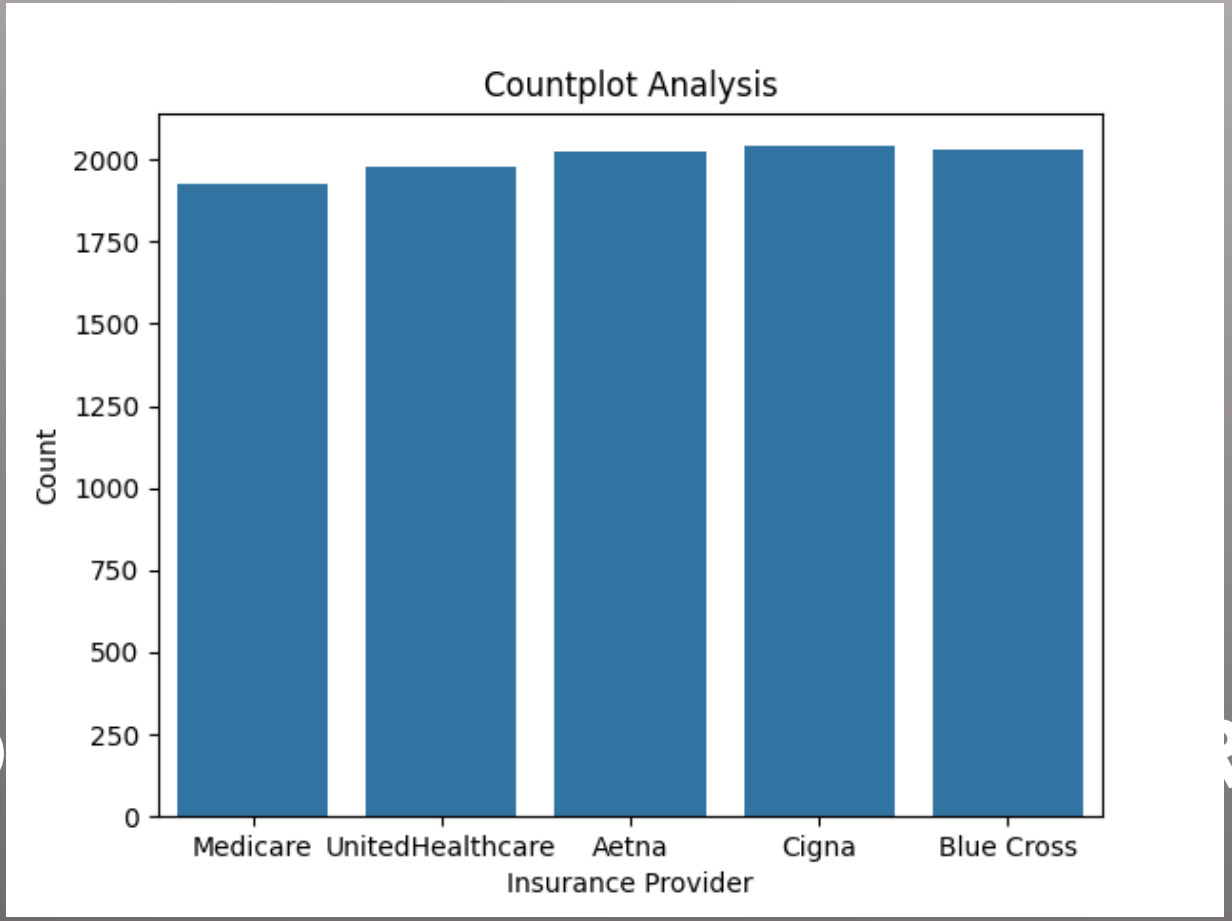
This graph explains frequency of Blood Type variable..



COUNTPLOT OF MEDICAL CONDITION

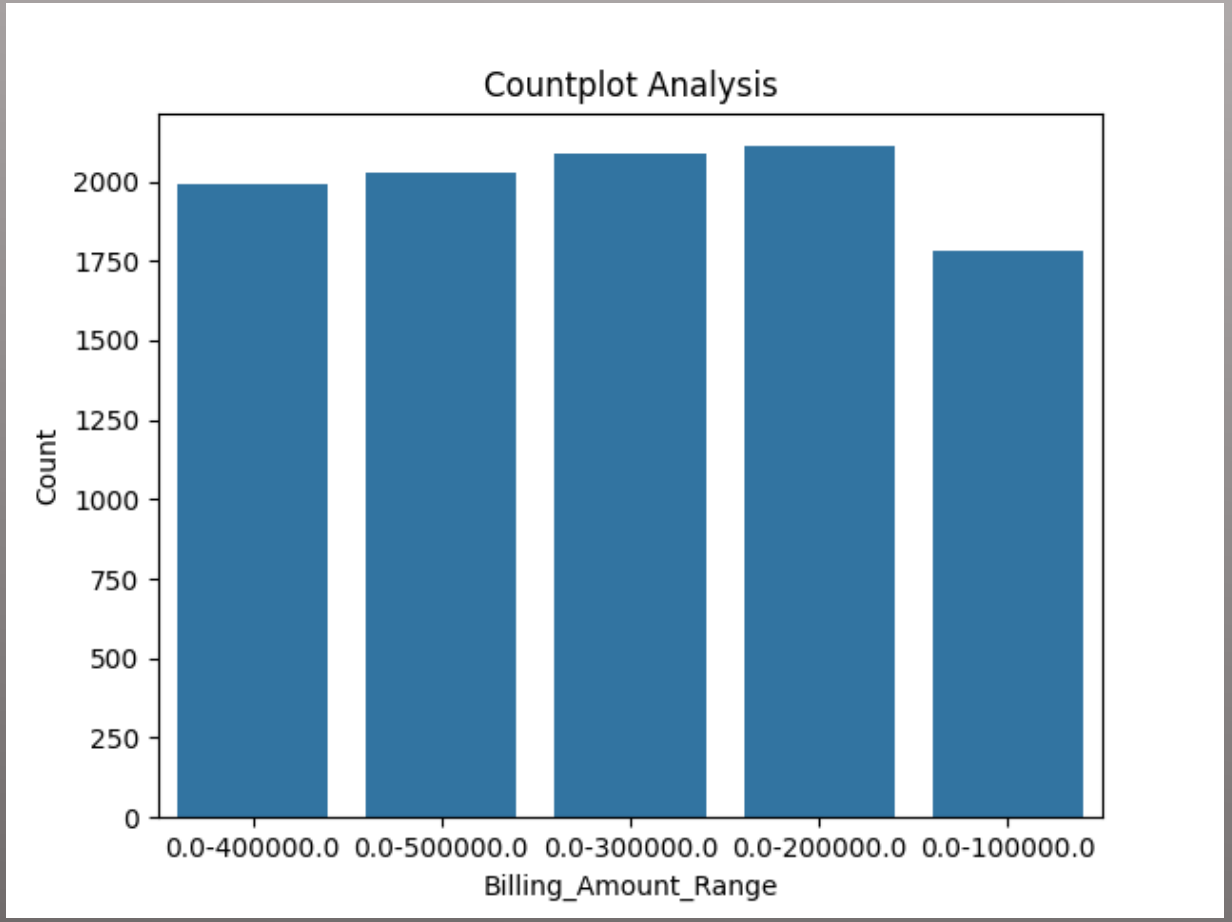
This graph explains frequency of Medical Condition variable..

COUNTPLO R

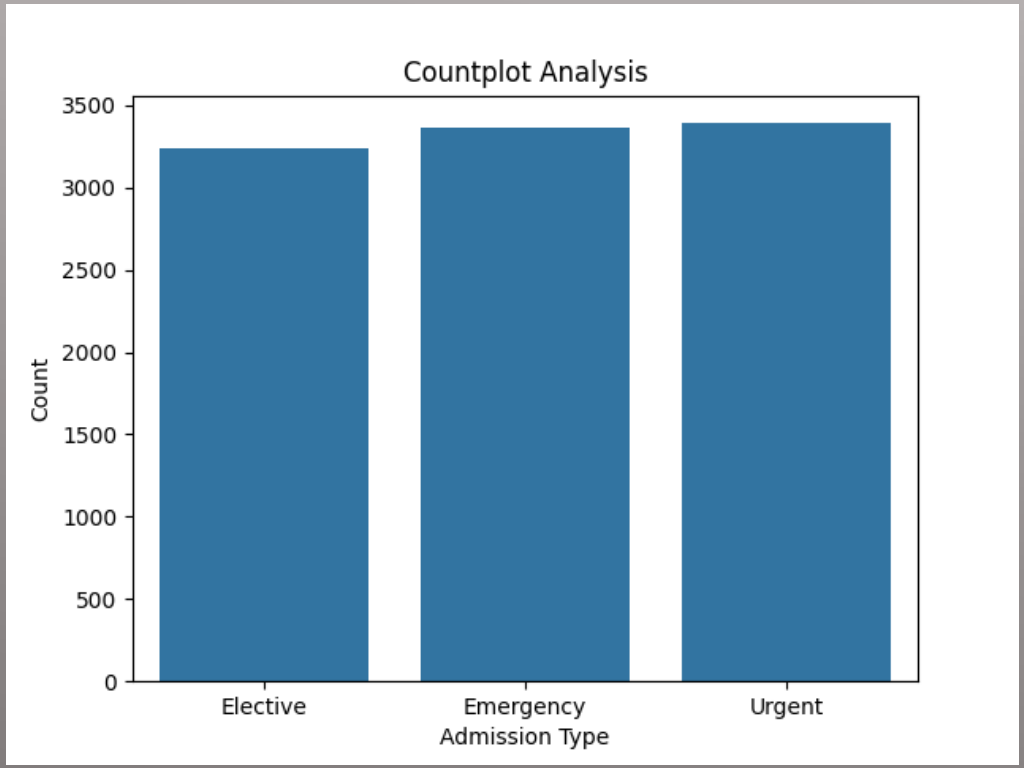


This graph explains frequency of Insurance Provider variable..

COUNTP

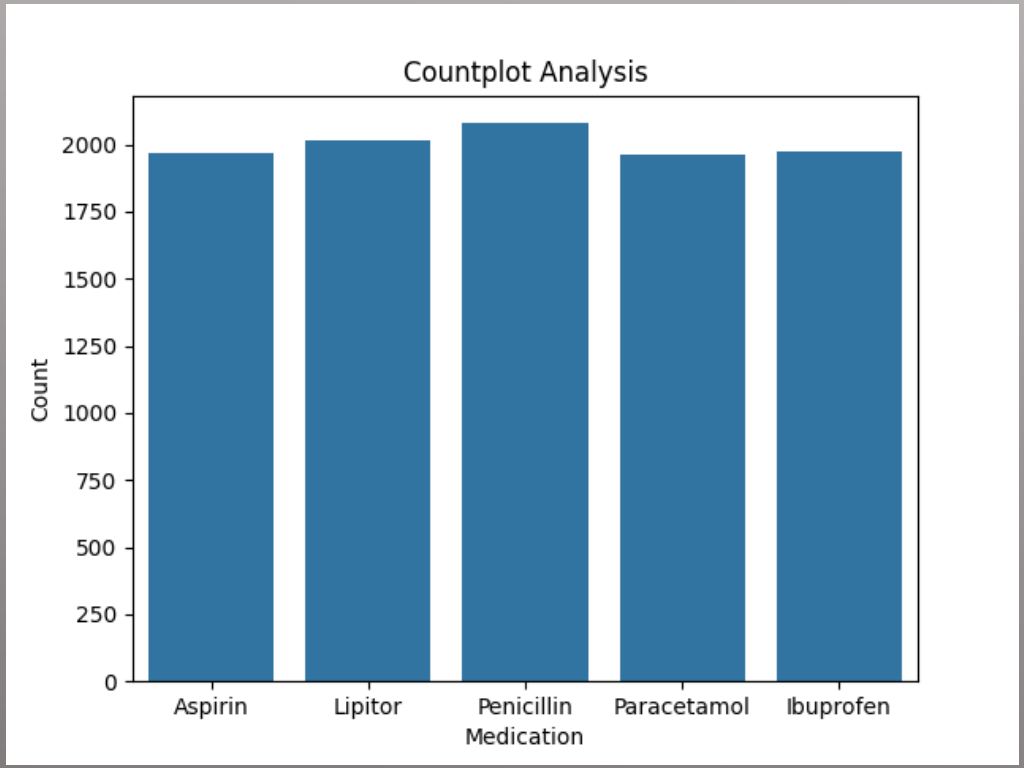


This graph explains frequency of Billing_Amount_Range variable..



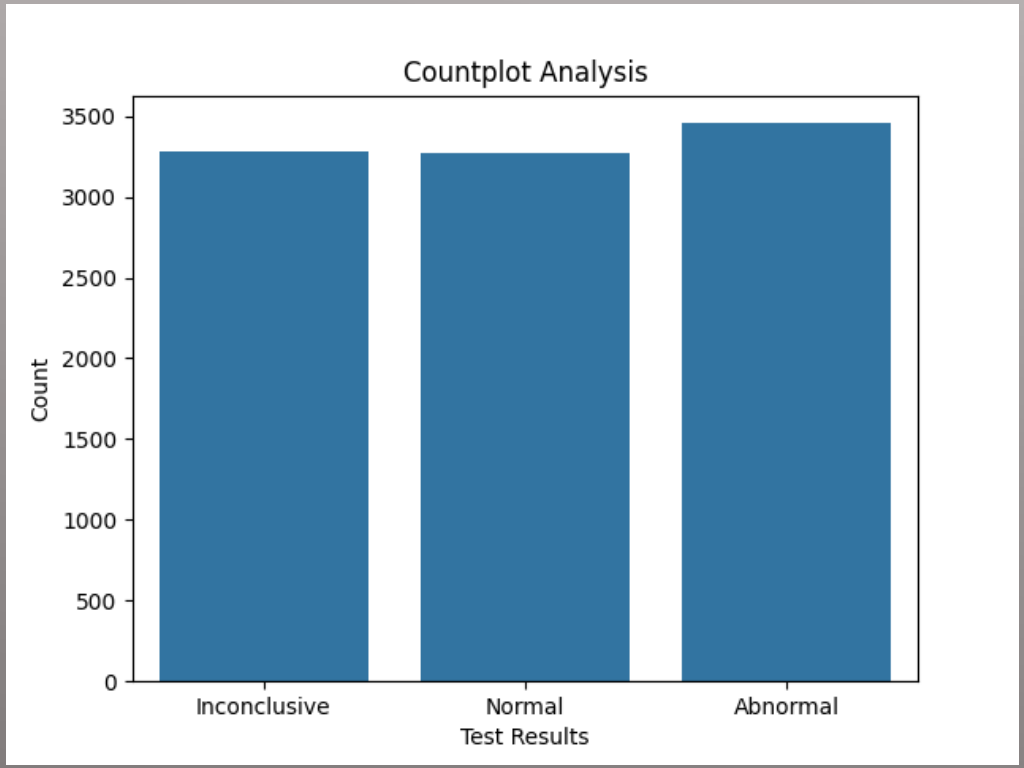
COUNTPLOT OF ADMISSION TYPE

This graph explains frequency of Admission Type variable..



COUNTPLOT OF MEDICATION

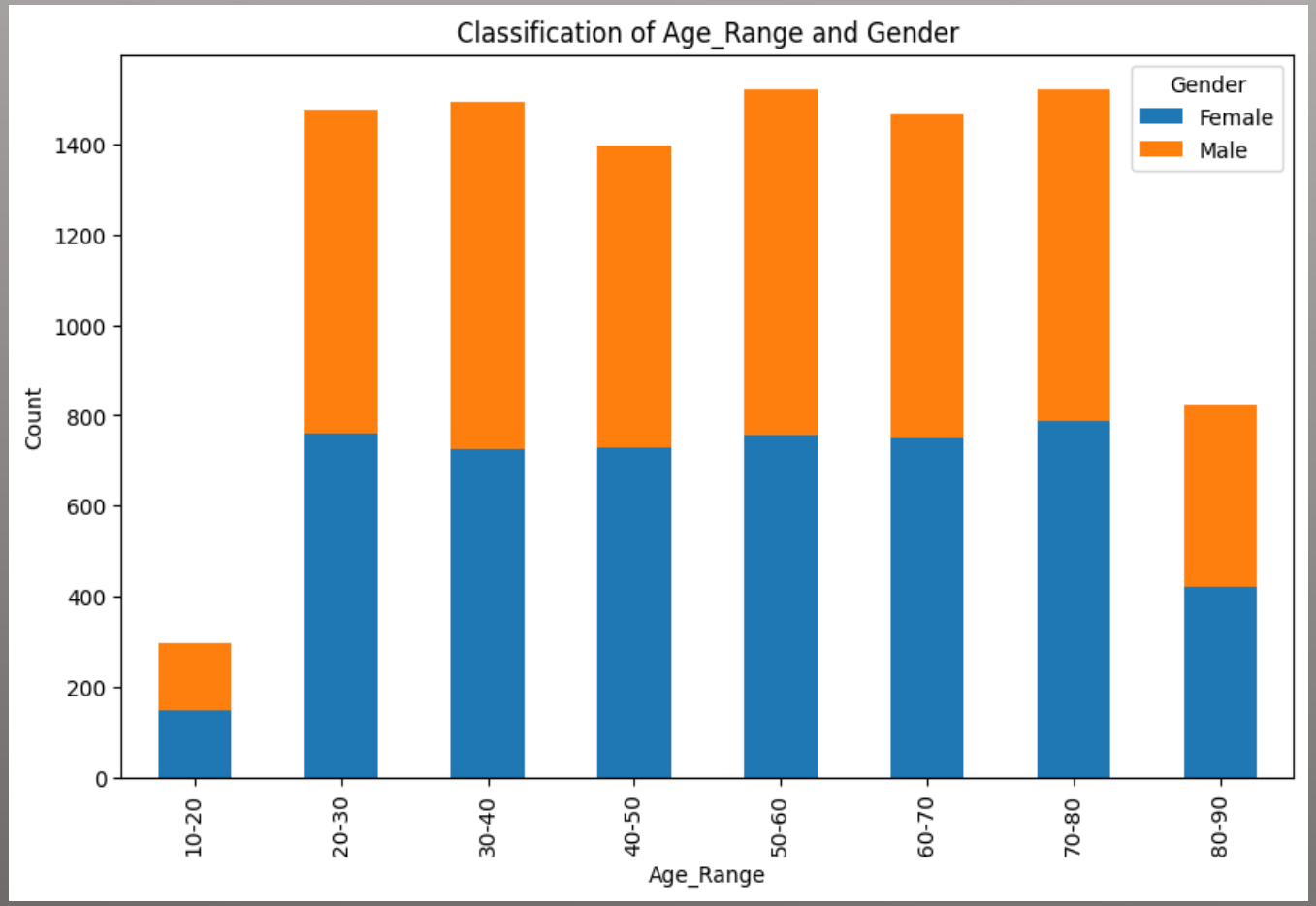
This graph explains frequency of Medication variable..



COUNTPLOT OF TEST RESULTS

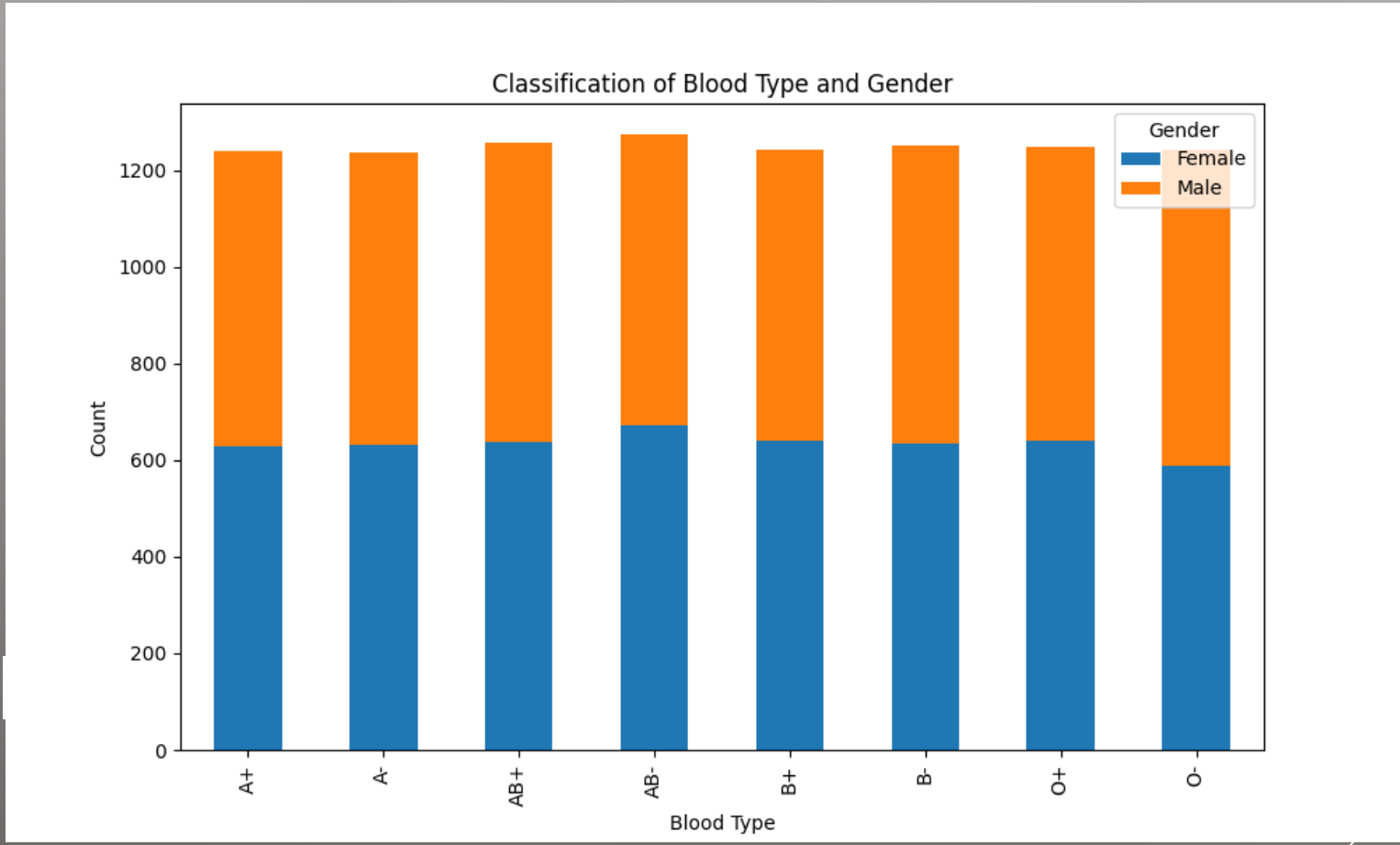
This graph explains frequency of Test Results variable..

CLASSIFICATION OF AGE AND GENDER

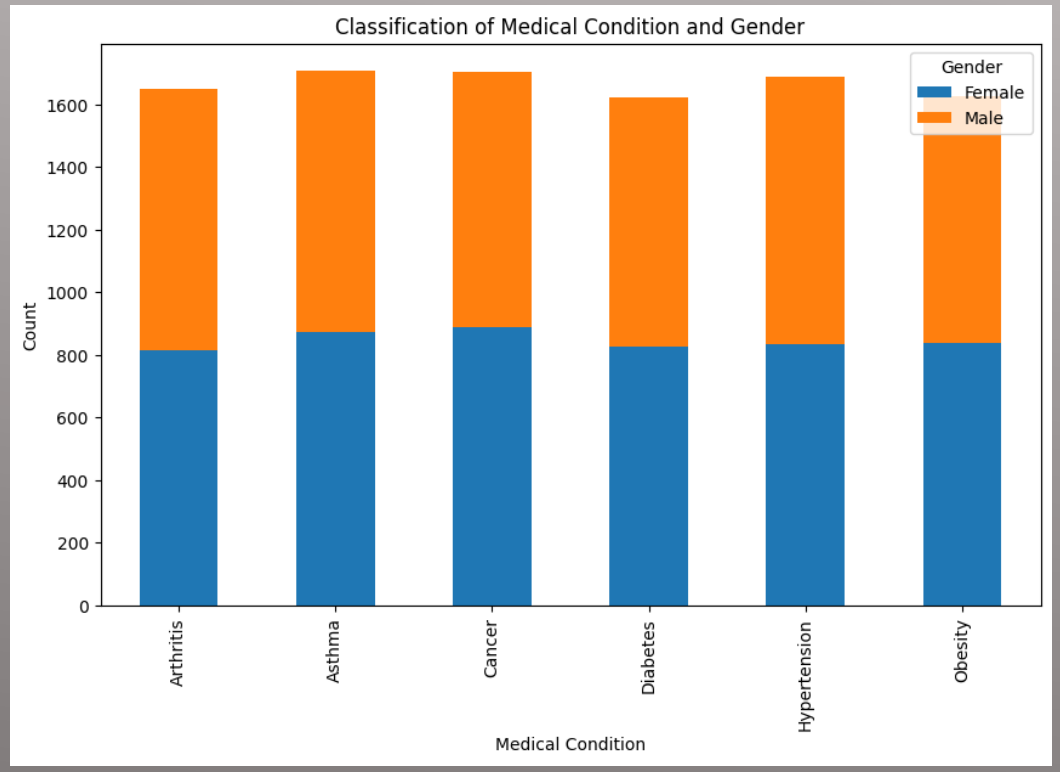


This graph explains Classification between Age and Gender..

CLASSIFI



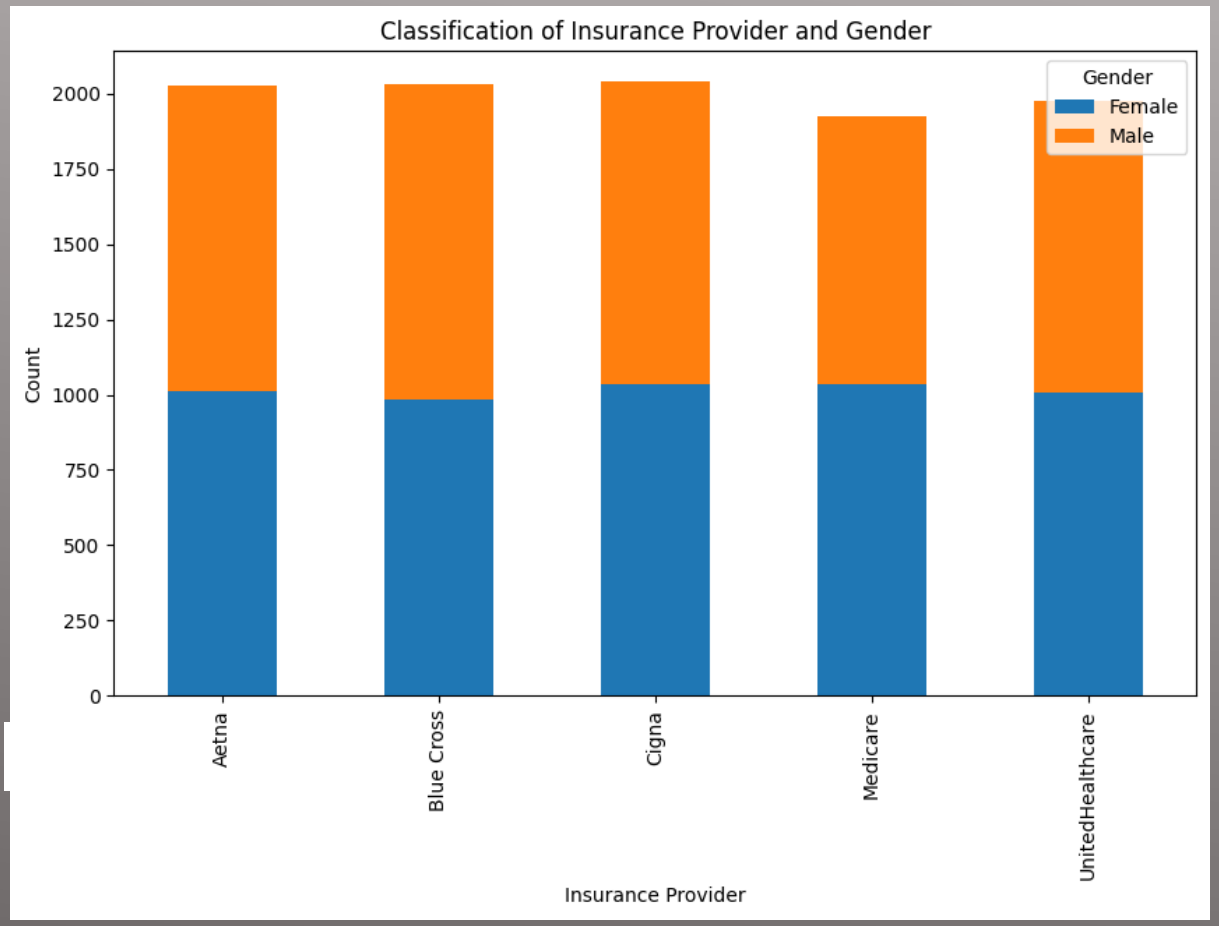
This graph explains Classification between Blood Type and Gender..



CLASSIFICATION OF MEDICAL CONDITION AND GENDER

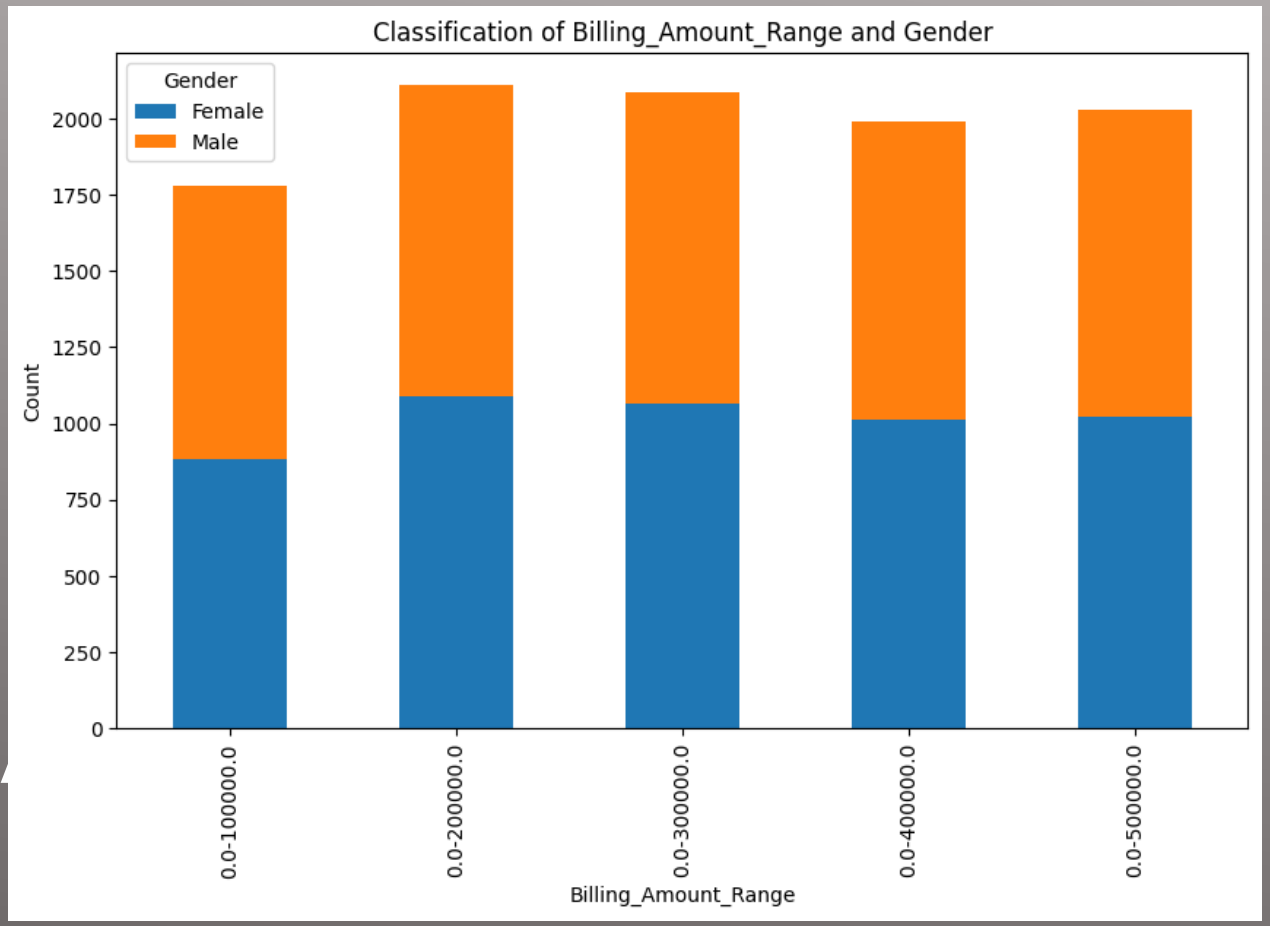
This graph explains Classification between Medical Condition and Gender..

CLASSIFI



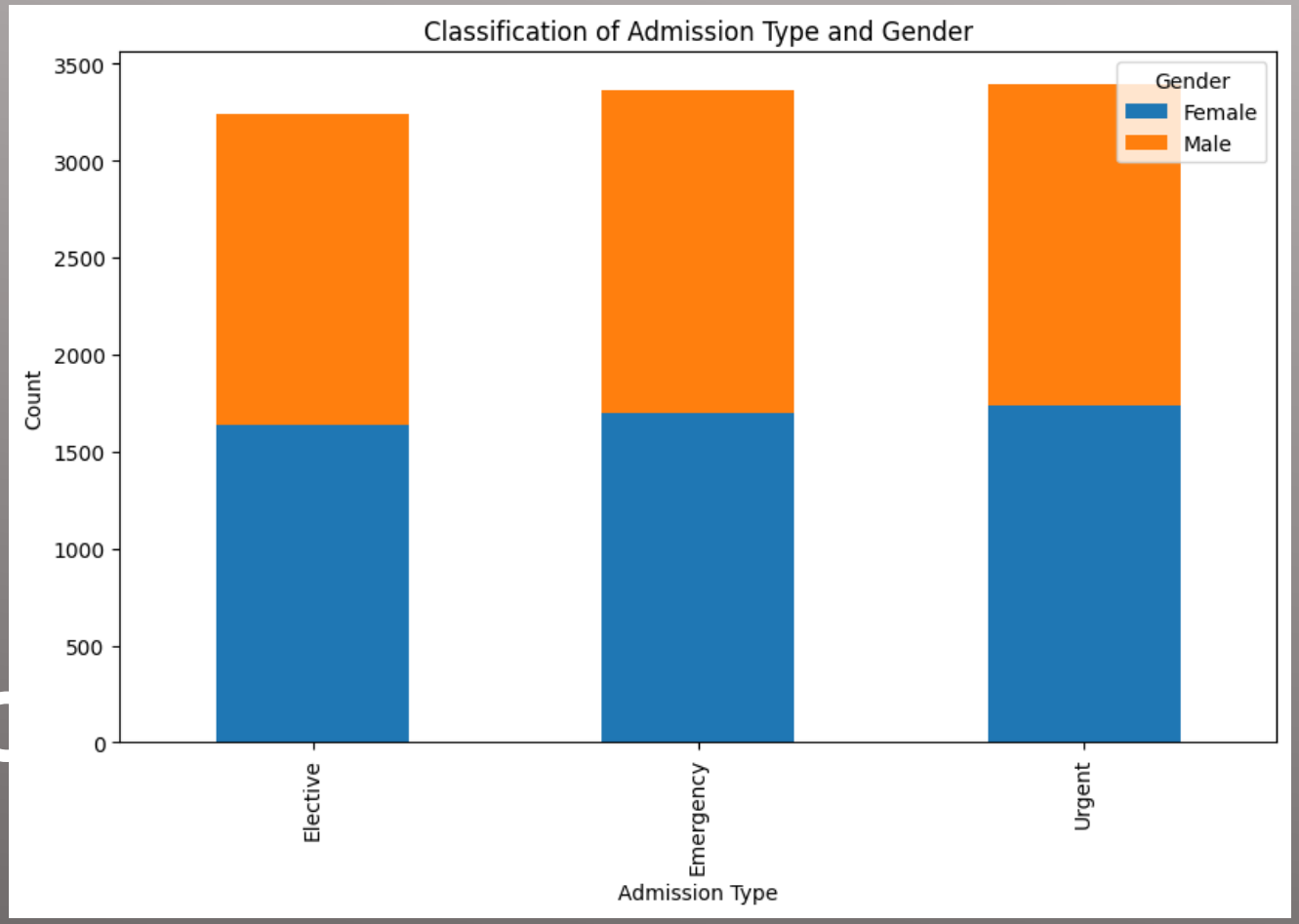
This graph explains Classification between Insurance Provider and Gender..

CLASSIFIC



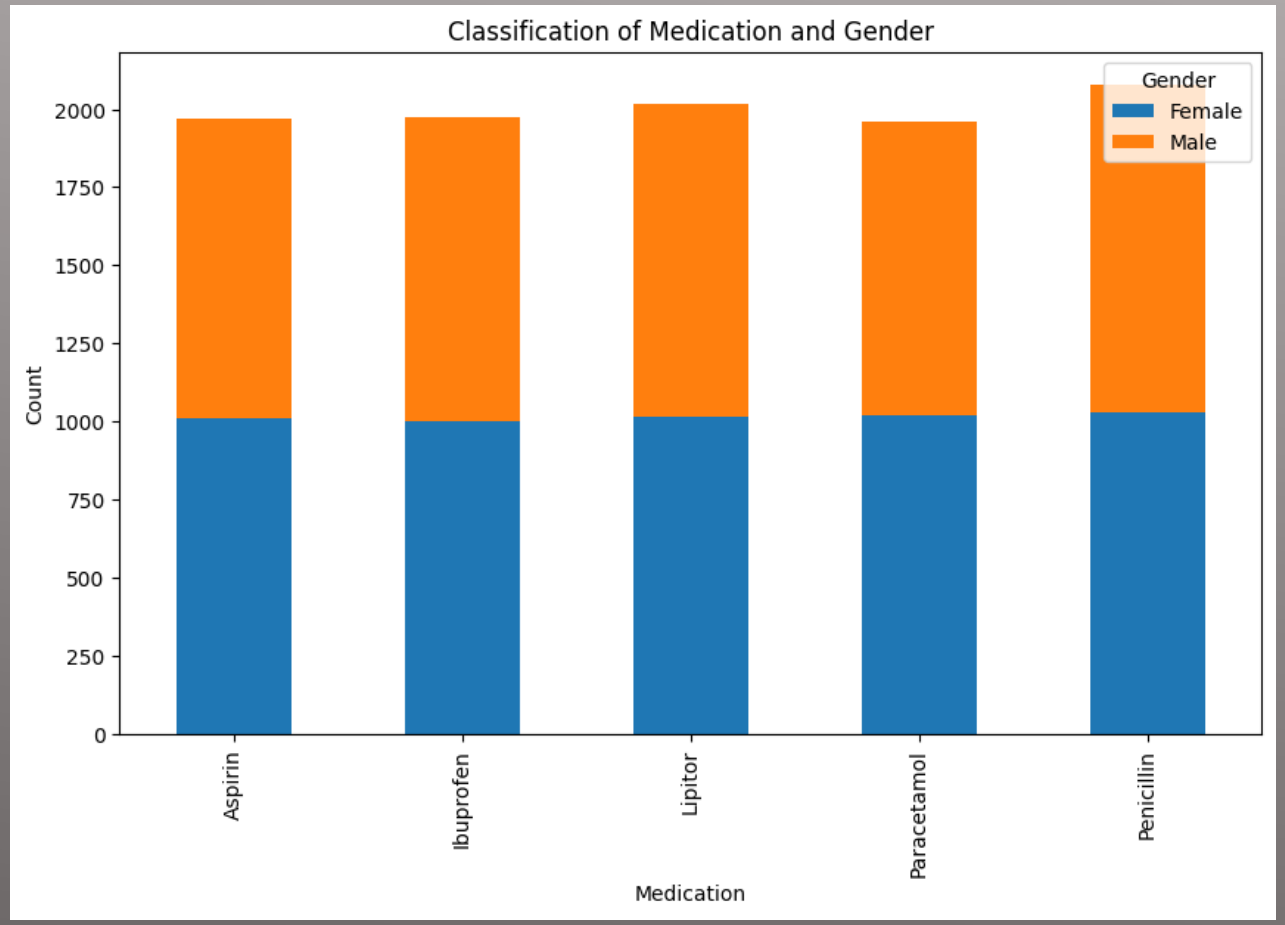
This graph explains Classification between Billing Amount and Gender..

CLASSIFIC

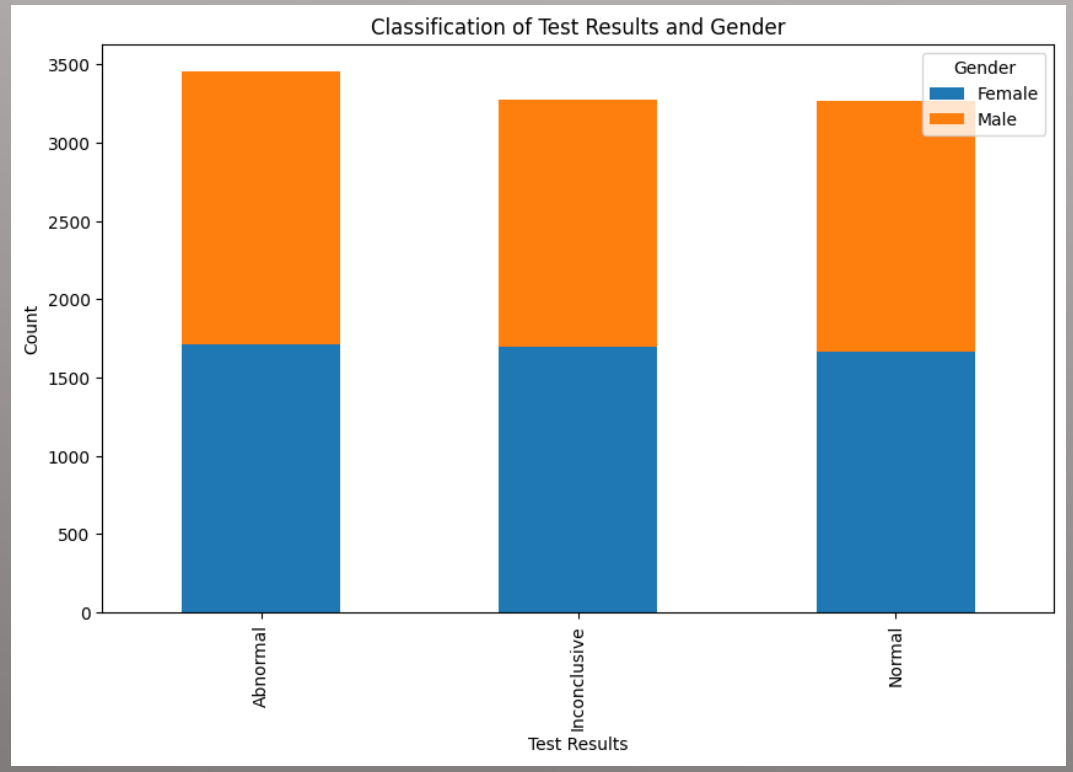


This graph explains Classification between Admission Type and Gender..

CLASSIFICATION OF MEDICATION



This graph explains Classification between Medication and Gender..



CLASSIFICATION OF TEST RESULTS

This graph explains Classification between Medication and Gender..

Accuracy: 1.0

	precision	recall	f1-score	support
0	1.00	1.00	1.00	706
1	1.00	1.00	1.00	636
2	1.00	1.00	1.00	658
accuracy			1.00	2000
macro avg	1.00	1.00	1.00	2000
weighted avg	1.00	1.00	1.00	2000

CLASSIFICATION REPORT

This is a Classification Report…for the dataset…

Random Forest Accuracy: 1.0
Random Forest Classification Report:

	precision	recall	f1-score	support
0	1.00	1.00	1.00	706
1	1.00	1.00	1.00	636
2	1.00	1.00	1.00	658
accuracy			1.00	2000
macro avg	1.00	1.00	1.00	2000
weighted avg	1.00	1.00	1.00	2000

RANDOM FOREST

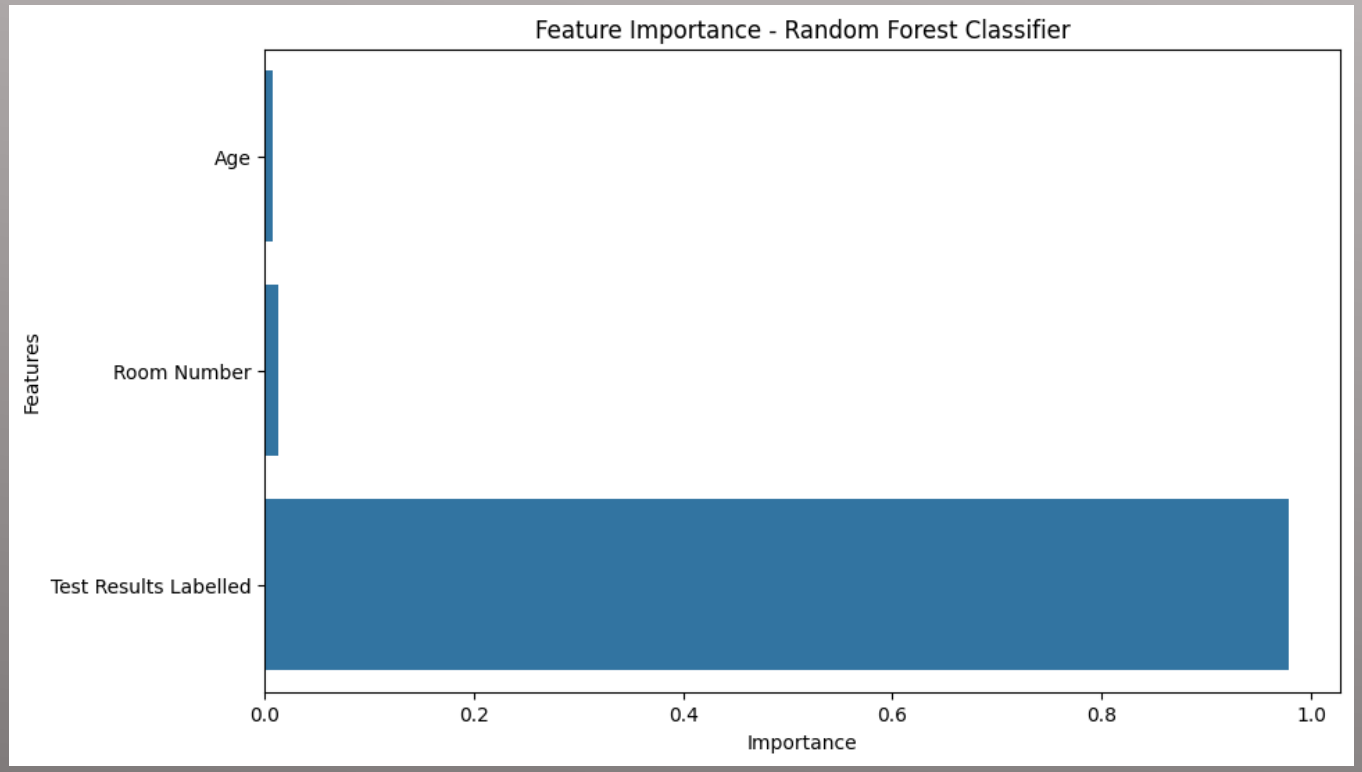
This is a Random Forest Report…

Decision Tree Accuracy: 1.0
Decision Tree Classification Report:

	precision	recall	f1-score	support
0	1.00	1.00	1.00	706
1	1.00	1.00	1.00	636
2	1.00	1.00	1.00	658
accuracy			1.00	2000
macro avg	1.00	1.00	1.00	2000
weighted avg	1.00	1.00	1.00	2000

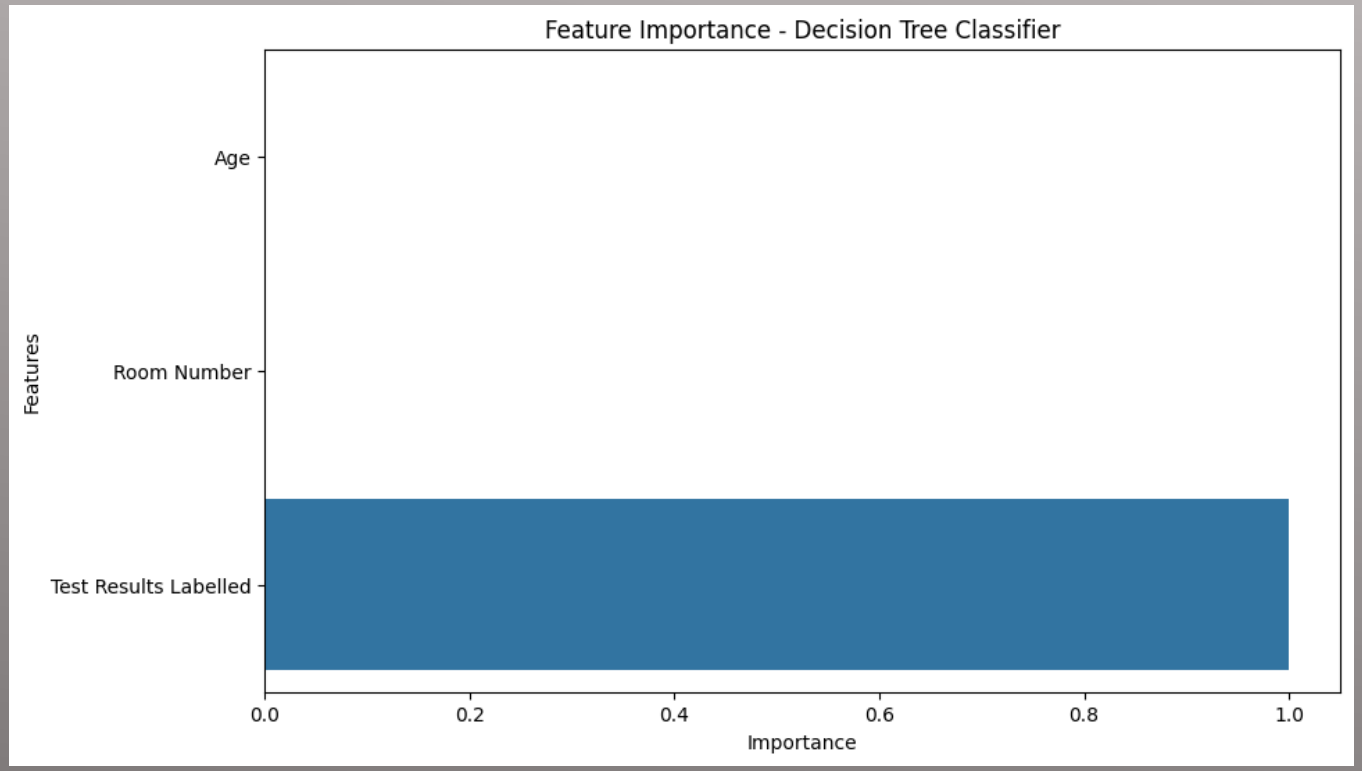
DECISION TREE

This is a Decision Tree Report…



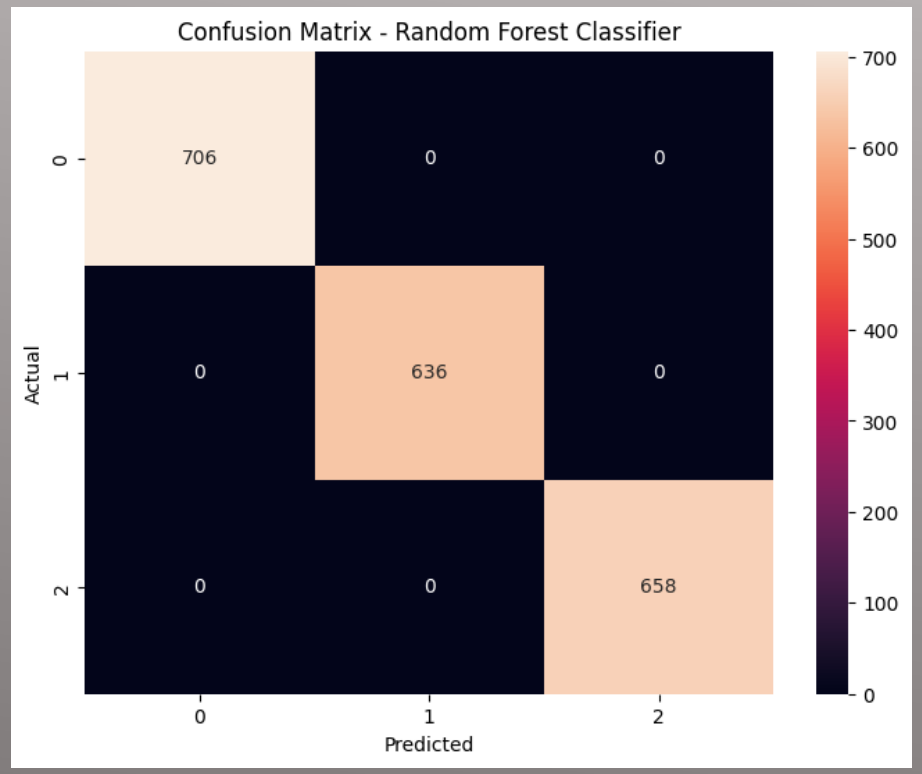
FEATURE IMPORTANCE- RANDOM FOREST CLASSIFIER

This is a Feature Importance graph based on Random Forest Classifier…



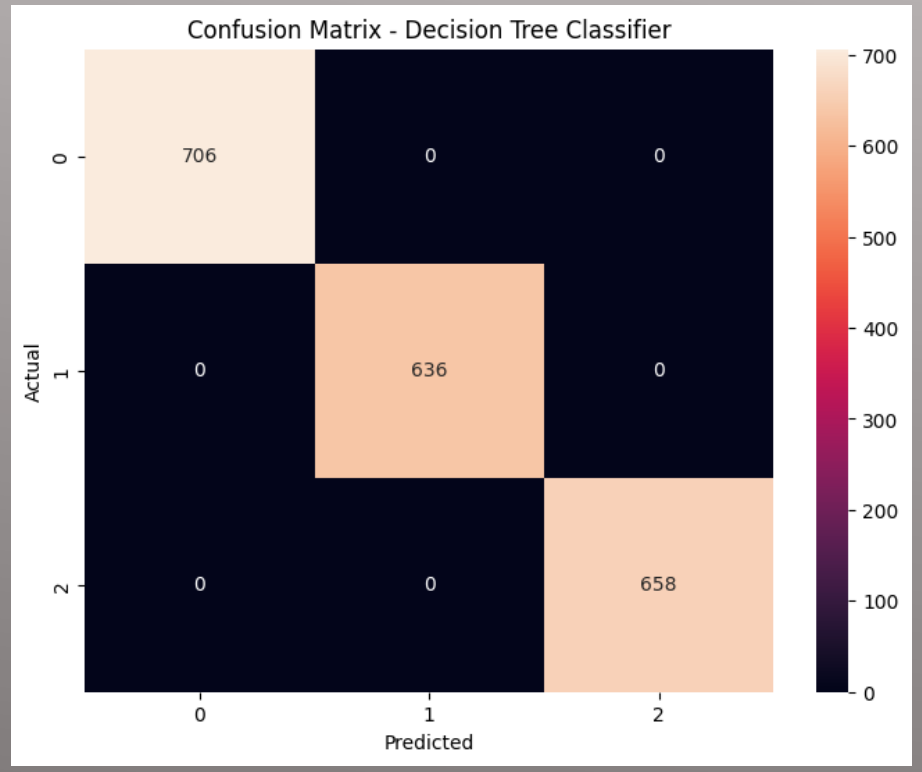
FEATURE IMPORTANCE- DECISION TREE CLASSIFIER

This is a Feature Importance graph based on Decision Tree Classifier…



CONFUSION MATRIX- RANDOM FOREST CLASSIFIER

This is a Confusion Matrix graph based on Random Forest Classifier…



CONFUSION MATRIX- DECISION TREE CLASSIFIER

This is a Confusion Matrix graph based on Decision Tree Classifier…

INFERENCES FROM DATA ANALYSIS IN HEALTHCARE.CSV DATASET..

- The results are::

-- Accuracy is 1.0/1.0 [Random Forest, Decision Tree]

-- This is 100% accuracy [Classification Report]

-- This dataset is the correct dataset should be analyzed further for data

visualization in equation of plot analysis.. for future studies

CONCLUSION

- As per data analysis this a good dataset…

THANK YOU