HEART DISEASE DIAGNOSTIC ANALYSIS

DETAILED PROJECT REPORT

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PROJECT DETAIL

Project Title	Heart Disease Dignostic Analysis
Technology	Business Intelligence
Domain	Healthcare
Programming Language Used	Python
Tools Used	MS Power BI, MS Excel , Jupyter Notebook

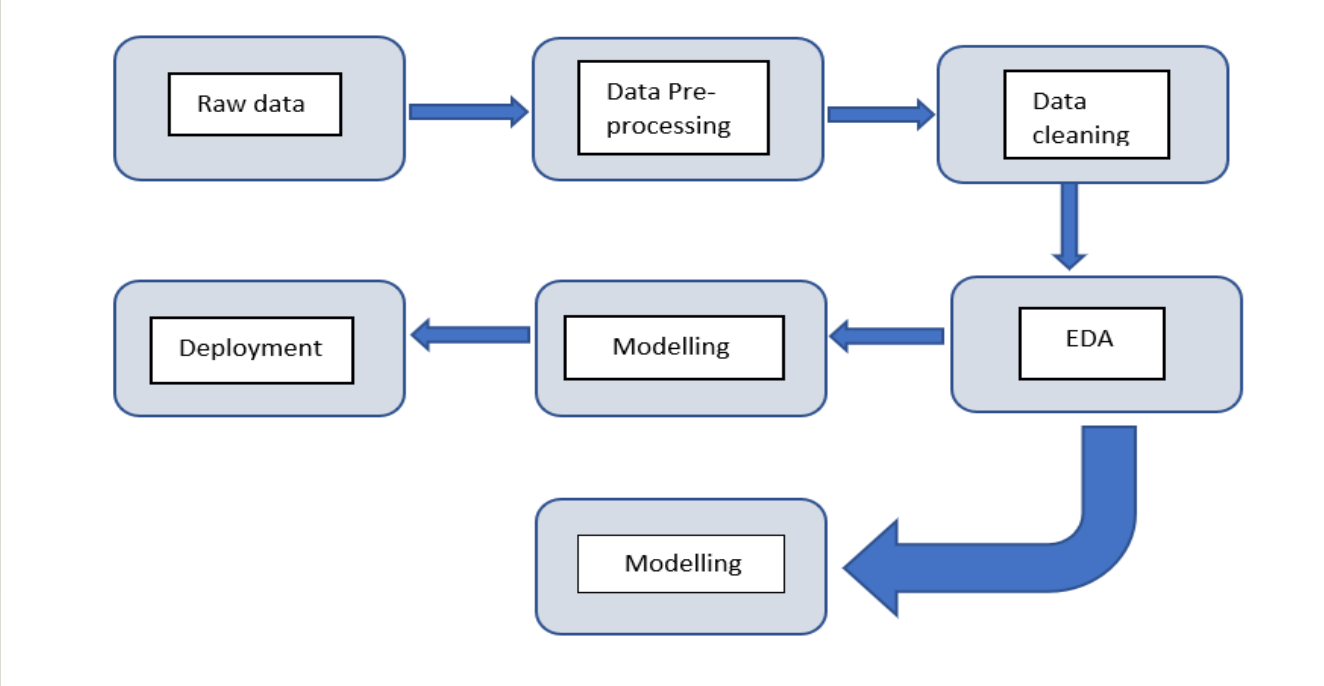
OBJECTIVE

- The goal of this project is to analyze the heart disease occurrence, based on a combination of features that describes the heart disease.

PROBLEM STATEMENT

- Health is real wealth in the pandemic time we all realized the brute effects of covid-19 on all irrespective of any status. You are required to analyse this health and medical data for better future preparation. A dataset is formed by taking into consideration some of the information of 303 individuals.

ARCHITECTURE



DATASET INFORMATION

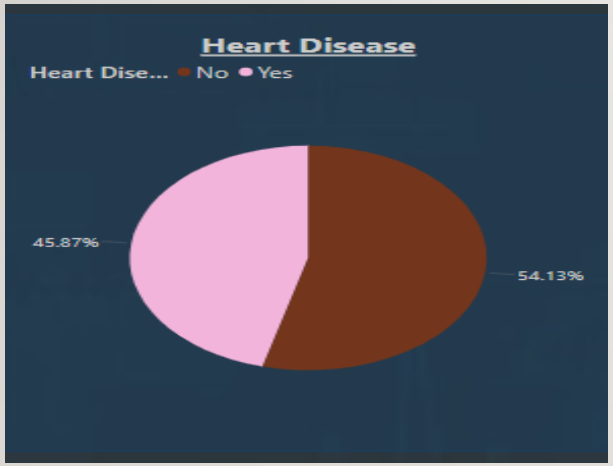
- age: The person's age in years
- sex: The person's sex i.e.1 - male, 0 - female
- cp: The chest pain experienced i.e.1- typical angina, 2- atypical angina, 3-non-anginal pain, 4- asymptomatic
- trestbps: The person's resting blood pressure
- chol: The person's cholesterol measurement in mg/dl
- fbs: The person's fasting blood sugar > 120 mg/dl, 1 - true; 0 – false
- restecg: Resting electrocardiographic measurement i.e.0 - normal, 1- having ST-T wave abnormality, 2 -showing probable or definite left ventricular hypertrophy by Estes' criteria

CONTINUE…

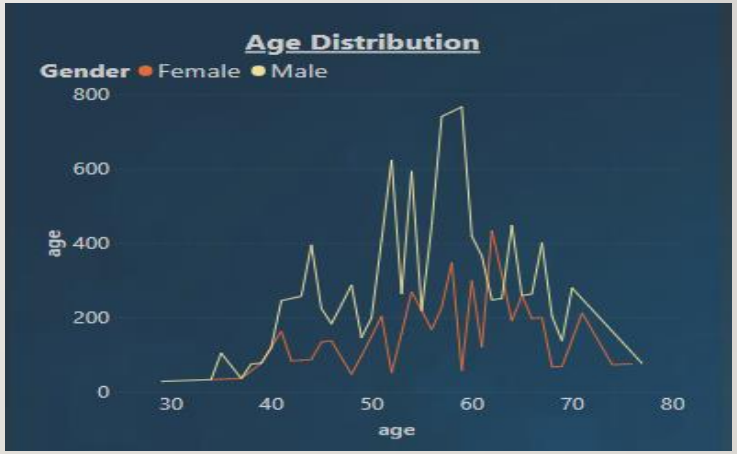
- exang: Exercise induced angina i.e.1 – yes, 0 – no
- oldpeak: ST depression induced by exercise relative to rest
- slope: the slope of the peak exercise ST segment i.e. 1- upsloping, 2- flat, 3- downsloping
- ca: The number of major vessels (0-3)
- thal: A blood disorder called thalassemia i.e. 3 - normal; 6 - fixed defect; 7 - reversable defect
- num: Heart disease i.e.0 - no, 1 –yes
- thalach: The person's maximum heart rate achieved

INSIGHTS

- What Kind of Population do we have?

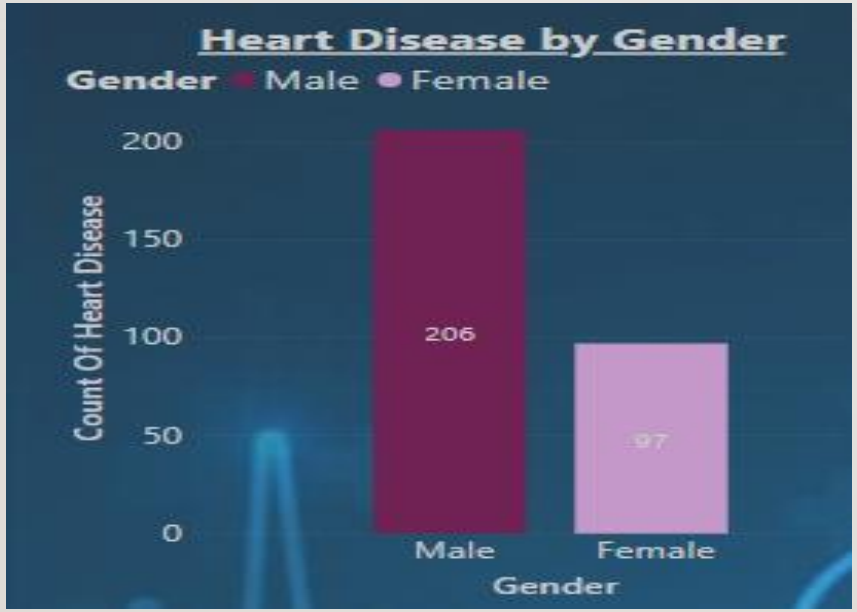


45.87% People suffering from heart disease.



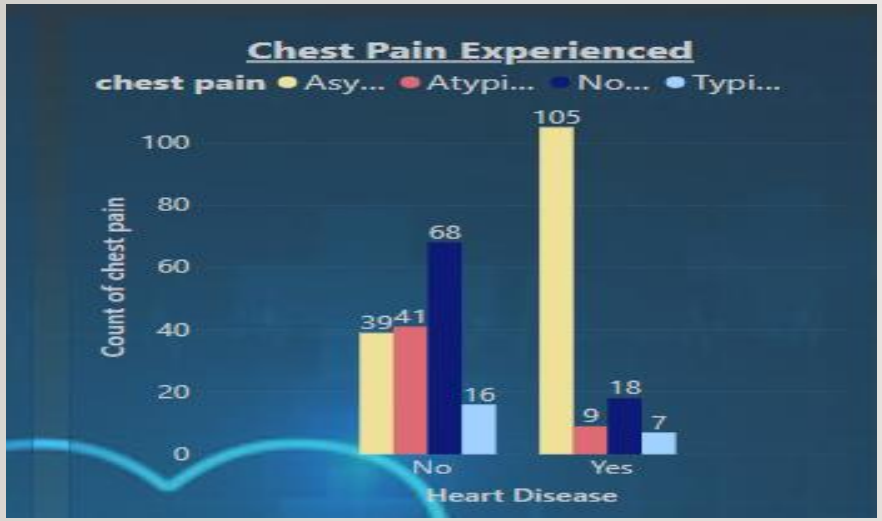
More men are from age category >50 and females are from category >55

WHO SUFFERS FROM HEART DISEASE?

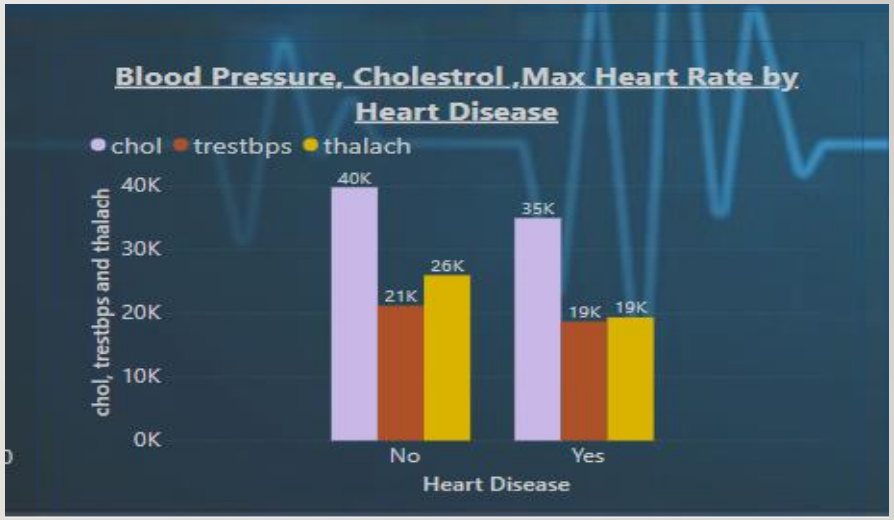


Males are more prone to heart disease.

CHEST PAIN EXPERIENCED BY PATIENTS

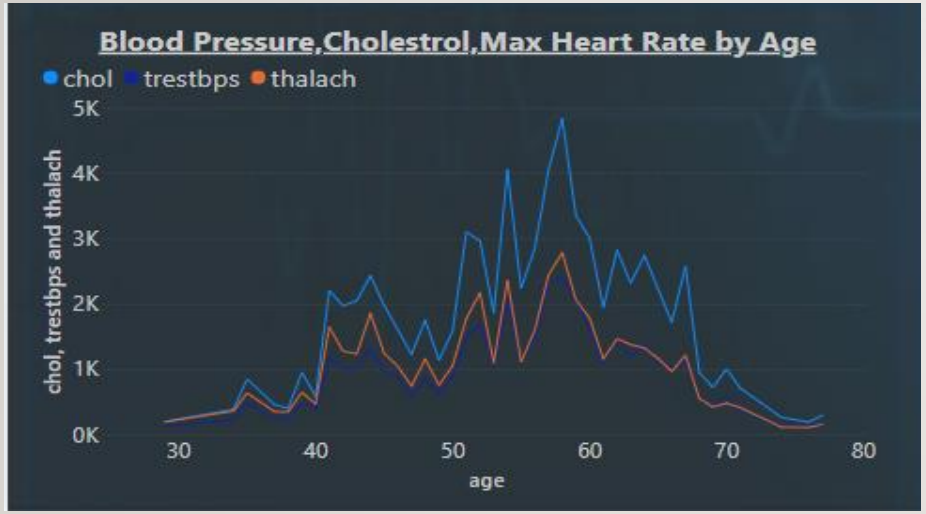


We can say that people having asymptomatic chest pain have a higher chance of heart disease.

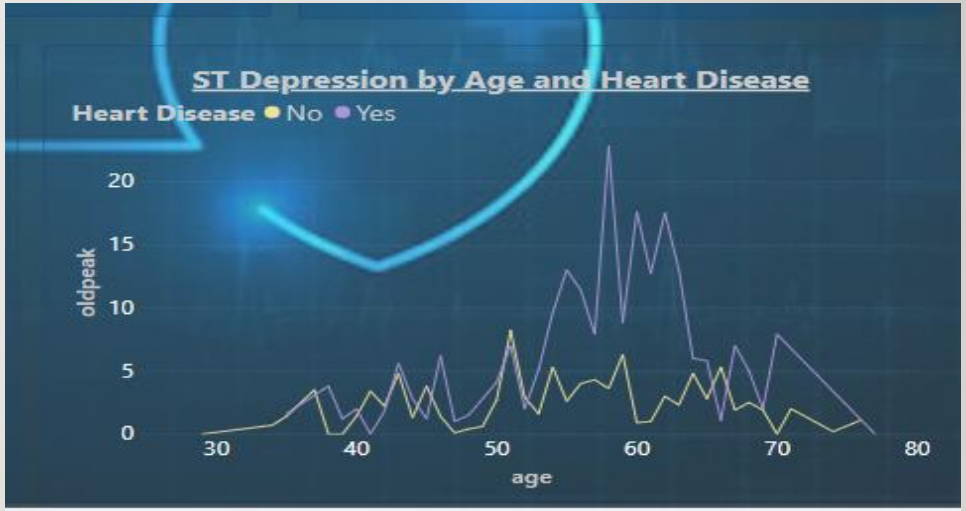


It seems high number of cholesterol level in people having heart disease

OTHER SYMPTOMS



- we can say that Blood Pressure increases between age of 50 to 60 and somehow continue the pattern till 70.
- Similarly, Cholesterol and maximum heart rate Increasing in the age group of 50-60.



- ST depression refers to a finding on an electrocardiogram, wherein the trace in the ST segment is abnormally low below the baseline

KEY PERFORMANCE INDICATOR (KPI)

- 1. Percentage of People Having Heart Disease and Age Distribution according to Gender
- 2. Gender Distribution Based on Heart Disease
- 3. Chest Pain Experienced by People Suffering from Heart Disease
- 4. Blood Pressure, Cholesterol Level and Maximum Heart Rate of People According to their Age and Heart Disease Patients.
- 5. ST Depression Experienced by People According to their age and heart disease.

CONCLUSION

- 45.87% People suffering from heart disease.
- Elderly Aged Men are more (50 to 60 Years) and Females are more in 55 to 65 Years Category
- Males are more prone to heart disease.
- Elderly Aged People are more prone to heart disease.
- People having asymptomatic chest pain have a higher chance of heart disease.
- High number of cholesterol level in people having heart disease.
- Blood Pressure increases between age of 50 to 60 and somehow continue till 70.
- Cholesterol and maximum heart rate Increasing in the age group of 50-60.
- ST depression mostly increases between the age group of 30-40

Q & A

- Q1) What's the source of data?
- Ans) The Dataset was taken from Provided Project Description Document.
- Q2) What was the type of data?
- Ans) The data was the combination of numerical and Categorical values.
- Q 3) What were the libraries that you used in Python?
- Ans) I used Pandas, NumPy and Matplotlib and Seaborn libraries in Python
- Q4) What techniques were you using for data?
- Ans) -Removing unwanted attributes -Visualizing relation of independent variables with each other and output variables -Removing outliers -Cleaning data and imputing if null values are present. -Converting Numerical data into Categorical values.

THANK YOU!!!