**Heart Disease Analysis**

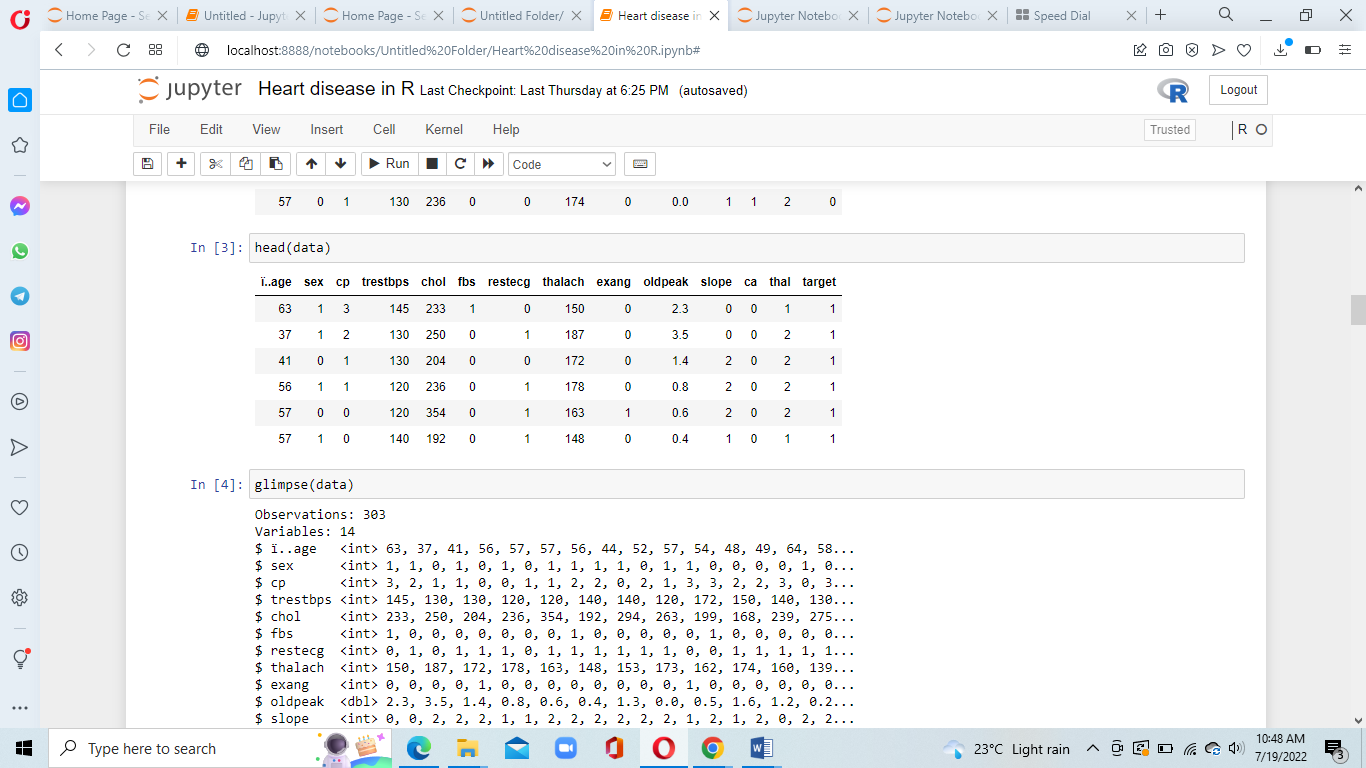
**Overview**

This project was done in a learning perspective to check the age criteria in which most of the heart diseases occur and its corresponding reasons.

It was done in R programming language using tidyverse package.

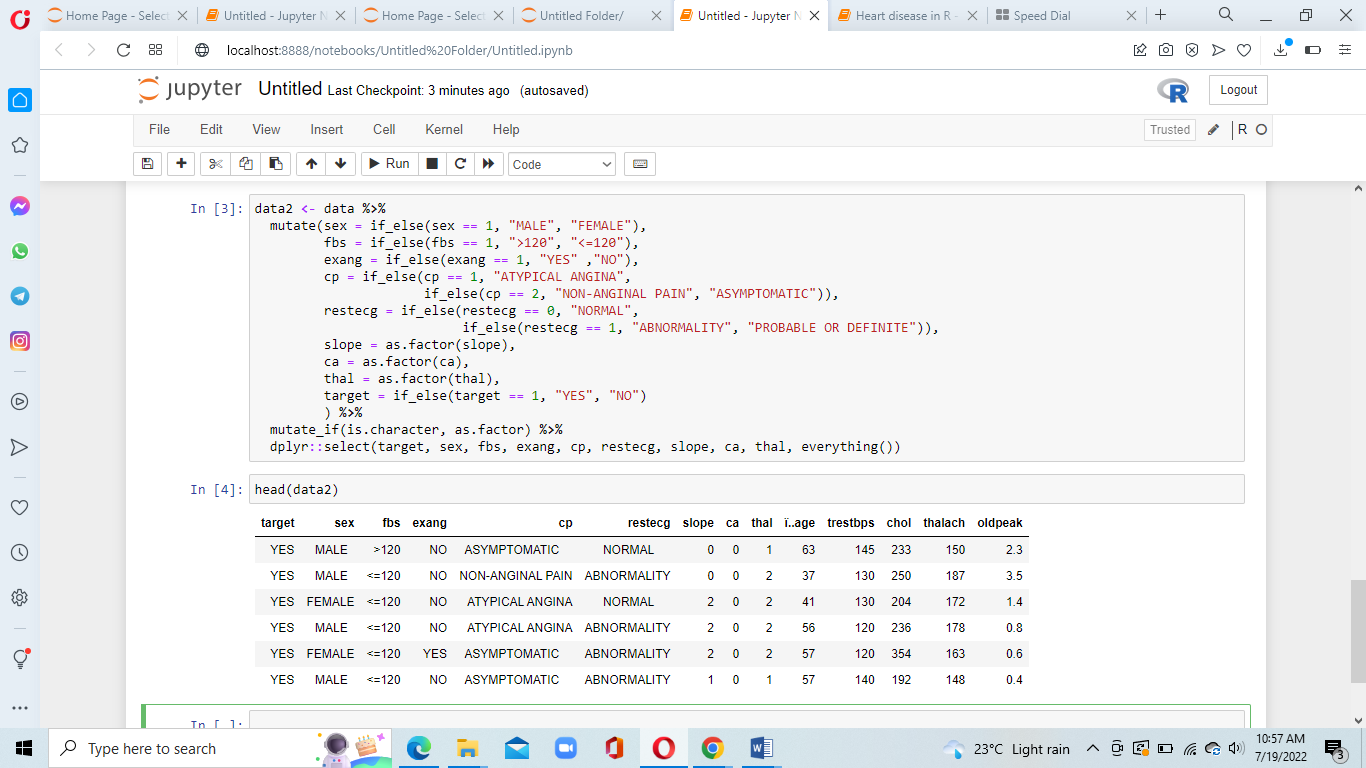
**Table Content**

* Data - 303 rows and 14 columns
* Age Patient Age
* Gender 0=Female, 1=Male
* Type of Chest Pain 1=Typical Angina, 2=Atypical Angina, 3= Not Angina Pain, 4=Asymptotic
* Serum Cholesterol This is measured in mg/dl
* Resting Blood Pressure If it is very high the chances of getting heart attack is very high
* Fasting Blood Sugar Fasting blood sugar>120 mg/dl (0=False,1=True)
* Maximum Heart Rate The value of the maximum heart rate
* Resting ECG 0=Normal, 1=Having ST-T Abnormality,2=Left Ventricular Hypertrophy
* Thalassemia 3=Normal, 6=Fixed Defect, 7=Reversible Defect
* Peak Exercise ST Segment 1=Having pain, 0=Not having Pain
* Diagnosis of Heart Disease 0=Absence,1=Present



**Data Cleaning** (dplyr)

The data taken from the dataset was very vague it order to make in user understandable cleaning was done.



**Data Visualizations** (ggplot)

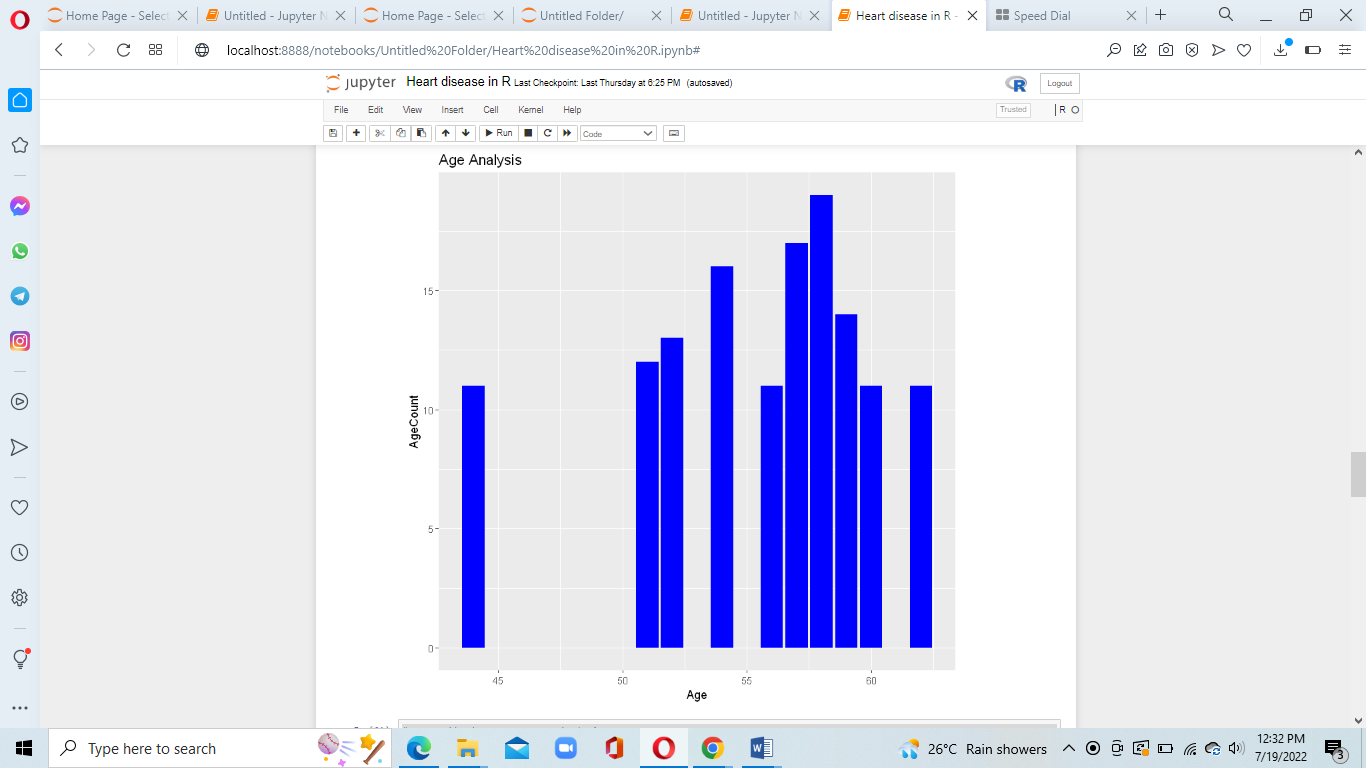
1. Count of how many people have heart diseases

* Out of 303 entries more than 150 people suffer from heart diseases.
* It occurs in a certain range of age 50 to 65



1. Frequency in the age

* It occurs in a certain range of age 50 to 65
* More than 15 people have heart issues in the age criteria 53-60



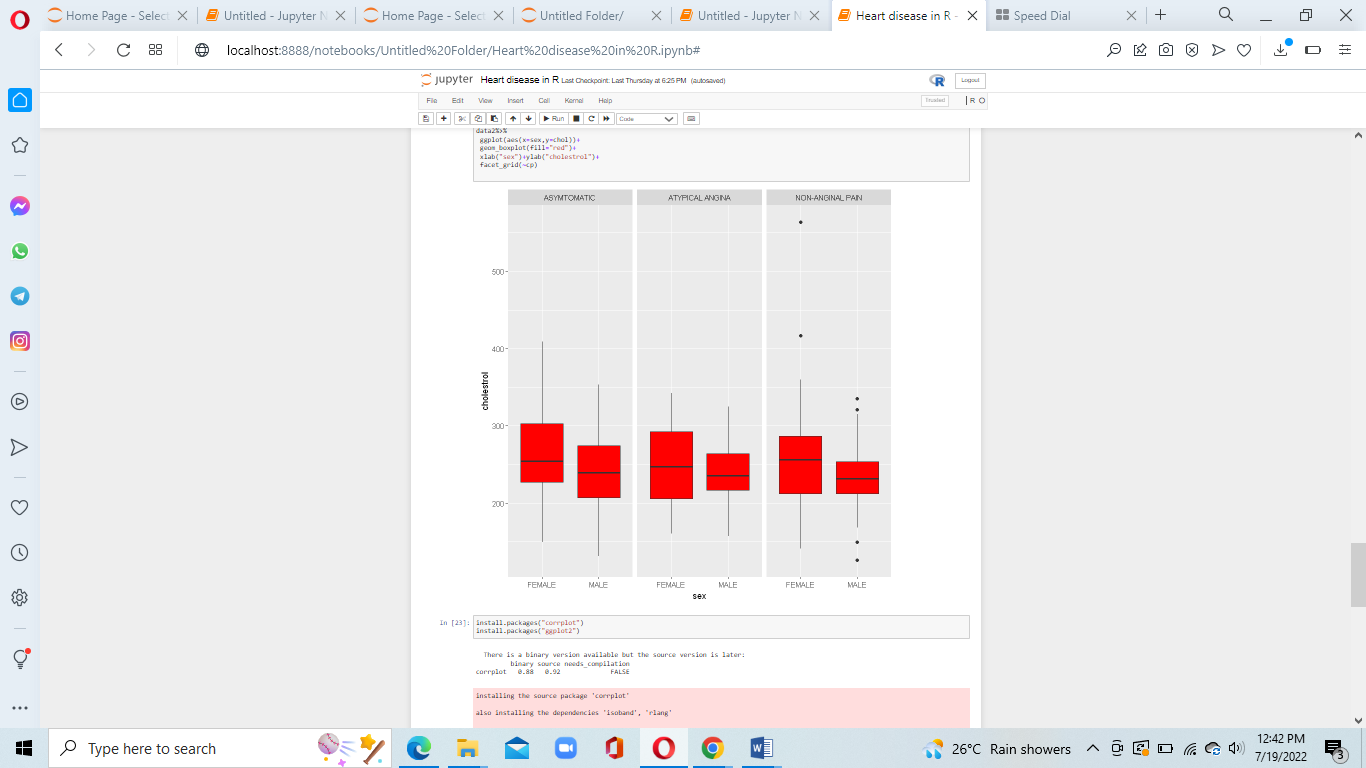
1. Blood Pressure across Chest pain

* The minimum for the female in case of asymptomatic is above 90 and maximum is 190 with mean blood pressure of 135.
* The minimum for the male in case of asymptomatic is above 90 and maximum is less 190 with mean blood pressure of 135.
* The minimum for the female in case of atypical agina is above 120 and maximum is 130 with mean blood pressure of 125.
* The minimum for the male in case of atypical angain is above 90 and maximum is 190 with mean blood pressure of 127.
* The minimum for the female in case of non- angain pain is above 90 and maximum is above 150 with mean blood pressure of 127.
* The minimum for the male in case of non- angain pain is above 90 and maximum is above 150 with mean blood pressure of 127.

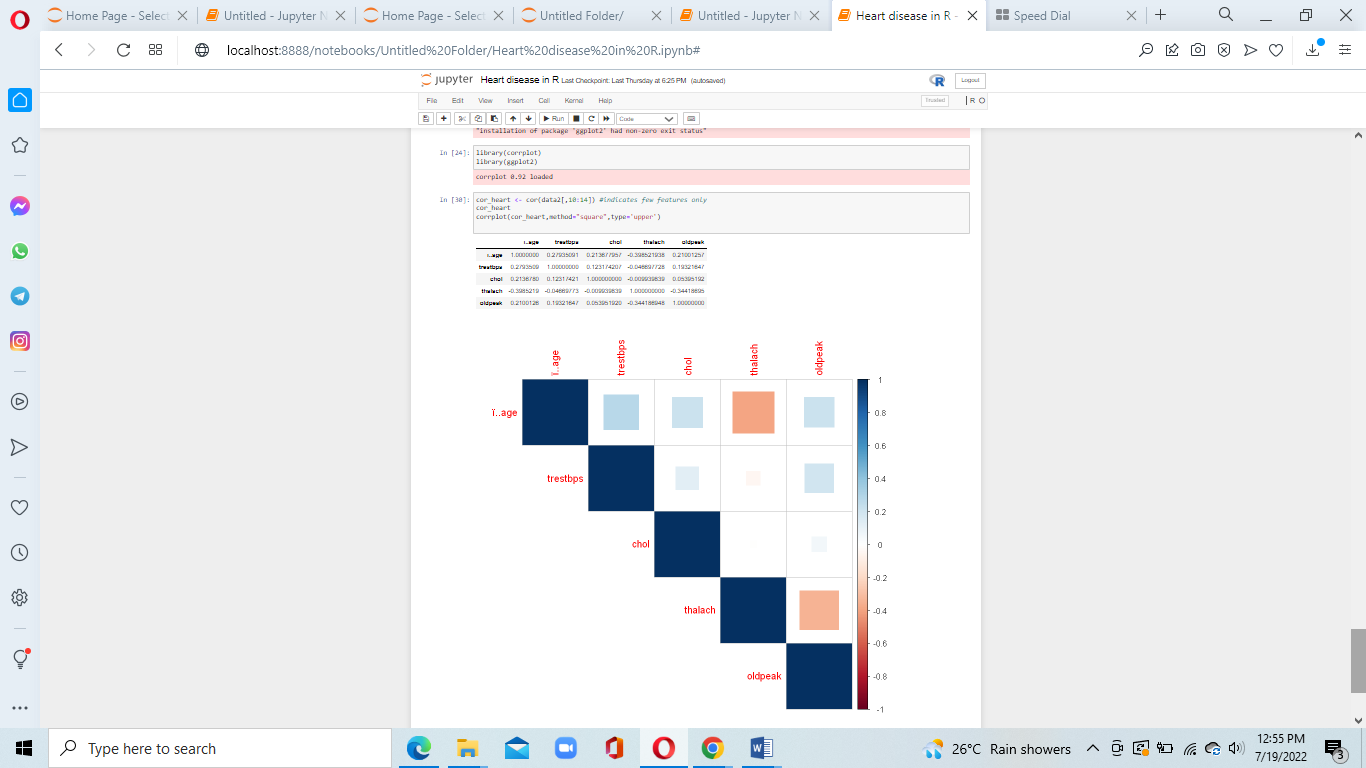


1. Blood Pressure across Cholesterol

* The minimum for the female in case of asymptomatic is less than 120 and maximum is 400 with mean cholesterol of 251.
* The minimum for the male in case of asymptomatic is less than 200 and maximum is 350 with mean cholesterol of less than 250 but greater than 200.
* The minimum for the female in case of atypical agina is less than 200 and maximum is less than 350 with mean cholesterol of 250.
* The minimum for the male in case of atypical angain is less than 200 and maximum is 300 with mean cholesterol of less than 250 but greater than 200.
* The minimum for the female in case of non- angain pain is less than 200 and maximum is above 300 with mean cholesterol of not more than 250 but greater than 200.
* The minimum for the male in case of non- angain pain is less than 200 and maximum is above 300 with mean cholesterol is less than 250.



1. Correlation of all the elements with each other



Conclusion

* We discovered that heart disease is a severe problem as a result of our research and study. We discovered that this condition is caused by a variety of variables, learned about the symptoms of various heart illnesses.
* This form of analysis can be a lot helpful in the medical sector.