Visualizing And Predicting Heart Diseases With An Interactive Dash Board

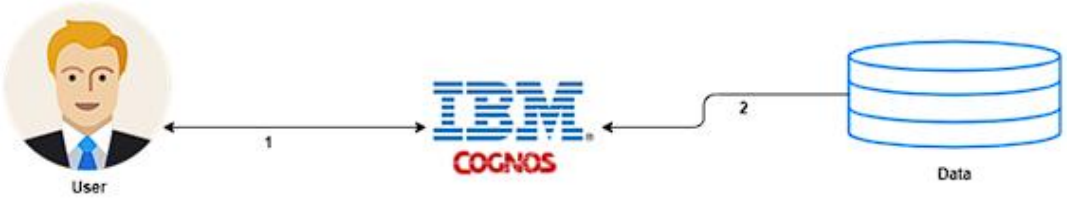
1.1 ABSTRACT

The leading cause of death in the developed world is heart disease. Therefore, there needs to be work done to help prevent the risks of having a heart attack or stroke. Healthcare industries generate enormous amount of data, so called big data that accommodates hidden knowledge or pattern for decision making. The huge volume of data is used to make decision which is more accurate than intuition. Exploratory Data Analysis (EDA) detects mistakes, finds appropriate data, checks assumptions and determines the correlation among the explanatory variables. In the context, EDA is considered as analysing data that excludes inferences and statistical modelling. Analytics is an essential technique for any profession as it forecast the future and hidden pattern. Data analytics is considered as a cost effective technology in the recent past and it plays an essential role in healthcare which includes new research findings, emergency situations and outbreaks of disease. The use of analytics in healthcare improves care by facilitating preventive care and EDA is a vital step while analysing data.

1.2 MOTIVATION & GOAL

The goal is to accurately predict which patients are mostly likely to suffer from a heart disease in the near future using the features given.

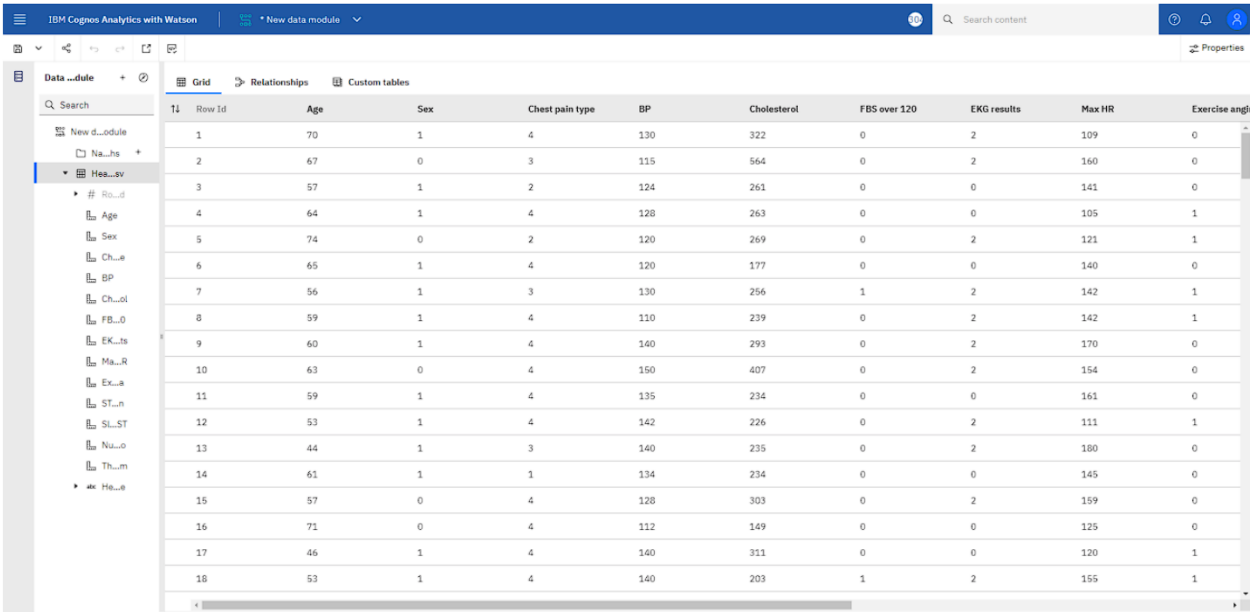
1.3 TECHNICAL ARCHITECTURE



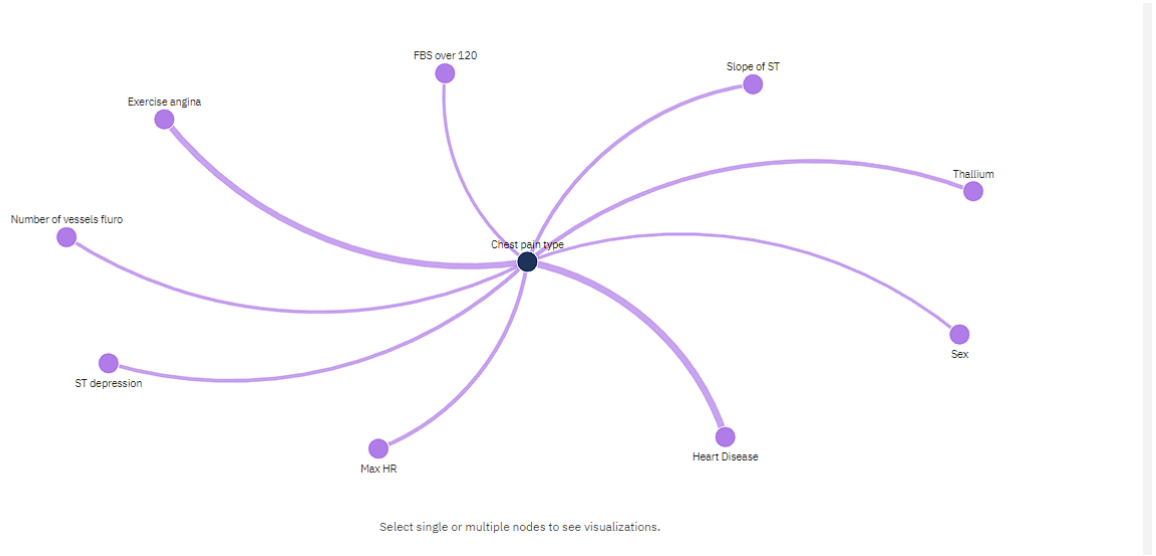
1.4 FINAL DELIVERABLES

1.4.1 SPRINT 1

In First sprint, We took Heart Disease prediction dataset from kaggle and preprocessing both in Jupyter notebook and IBM cognos.To find out null values present in the dataset and change it into a certain value.

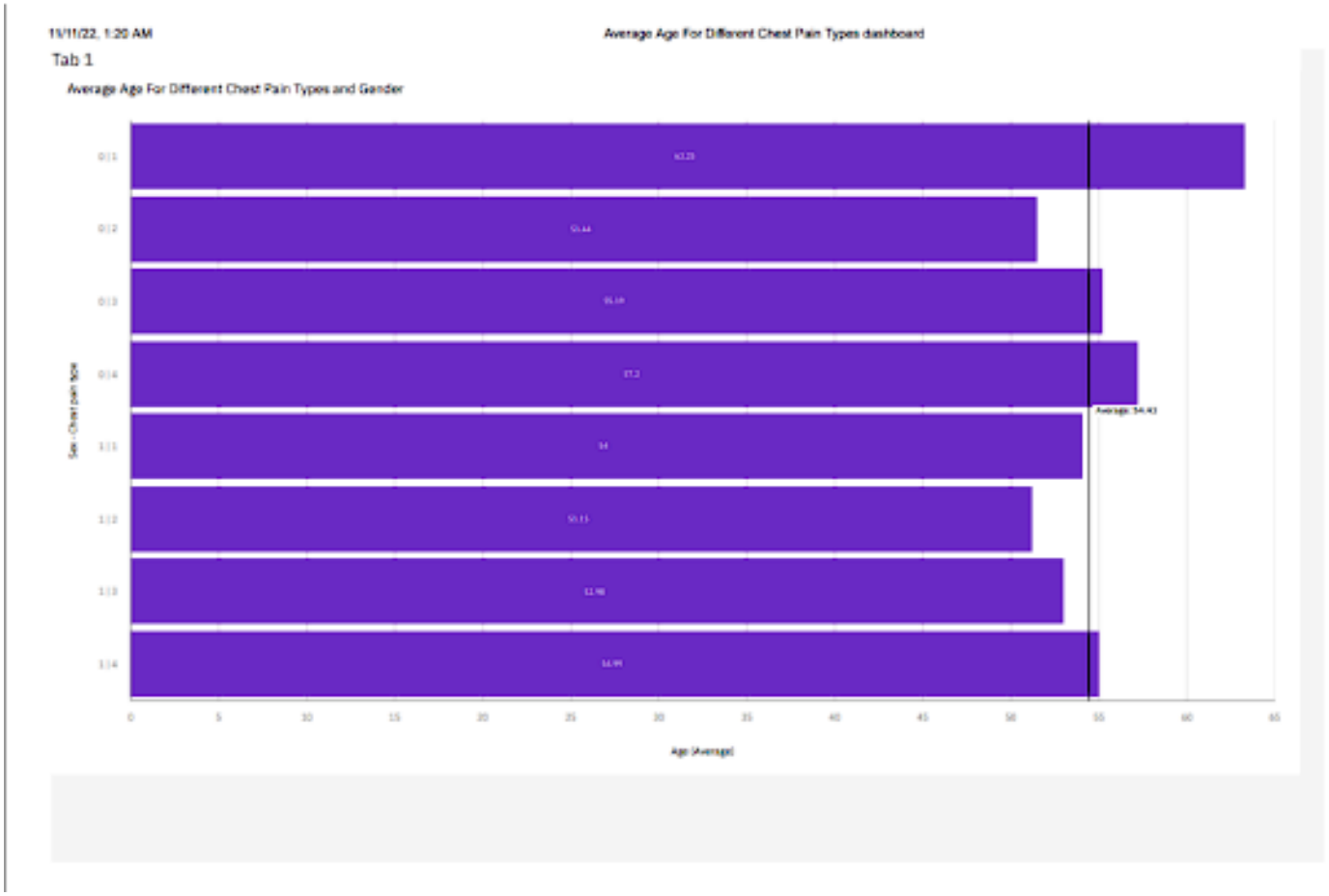


After preprocessing the data the dataset is explored in IBM cognos throughvarious graphs and tabular columns by comparing it with different sets of attributes.



1.4.2 SPRINT 2

After preprocessing and exploring the heart disease prediction data.
Now upload the preprocessed
data to dashboard.In here you can able to create dashboard's for each and single graph representation.This will help to make sure to find the Average availability of beds in the hospitals.



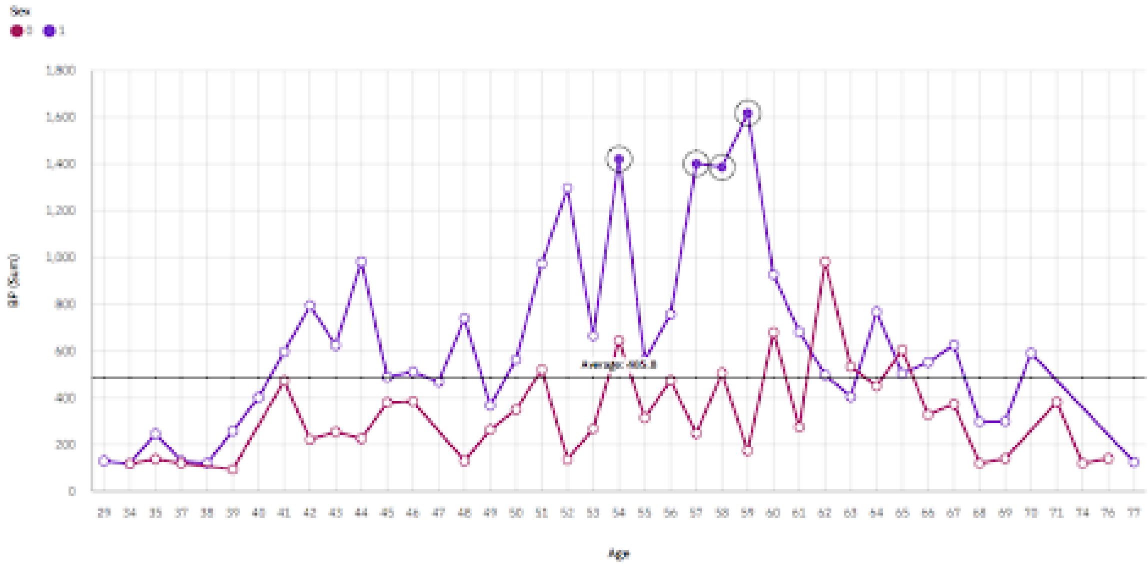
Tab 1

Heart Disease for Chest pain type and Sex

Heart Disease	1	2	3	4	Summary
0	4	16	32	35	**87**
1	16	26	47	94	**183**
Summary	**20**	**42**	**79**	**129**	**270**

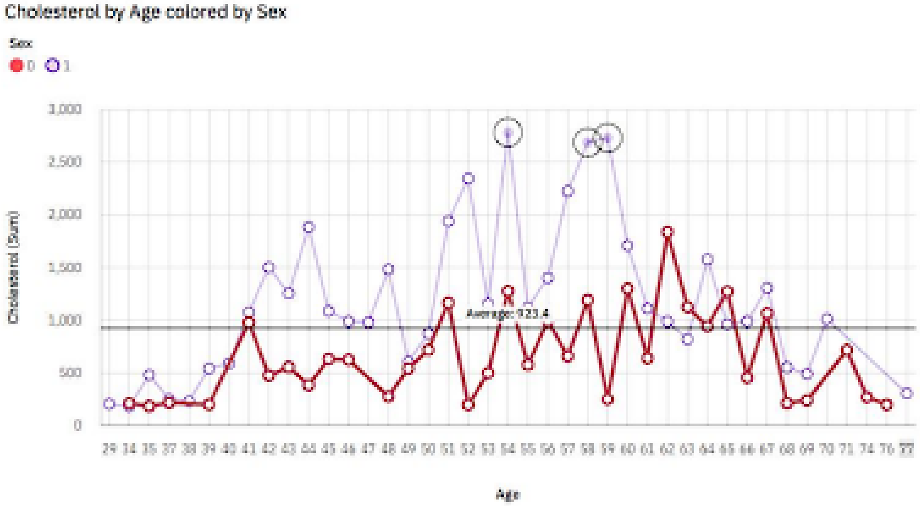
Tab 1

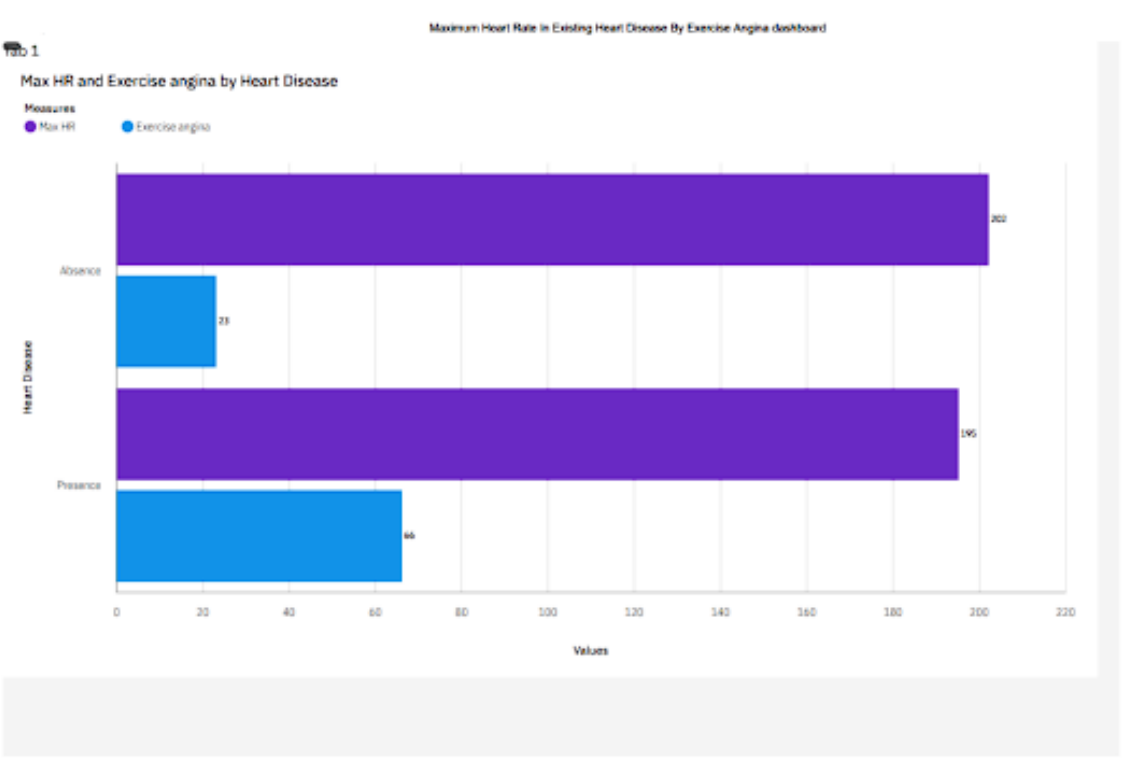
BP Variation With Respect To Age



Tab 1

Cholesterol by Age colored by Sex



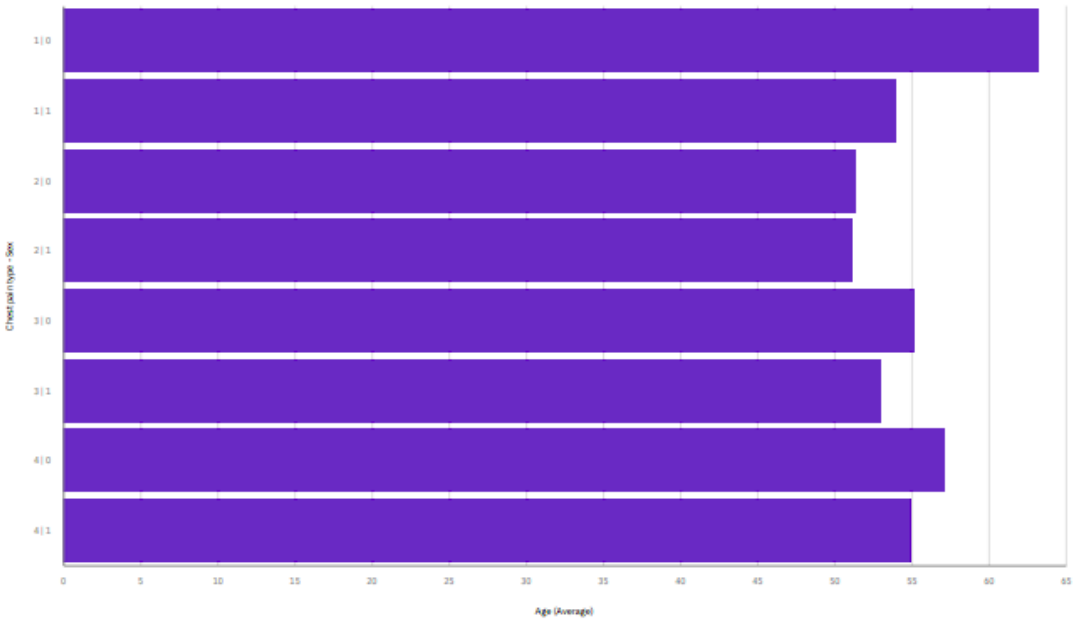


1.4.3 SPRINT 3

Finally after creating a dashboard for the health-care dataset.Now build a report and story using same method. Report can be build by importing the data exploration templates or templates which was available in the dashboard.This will make sure to create a organized way of report and story of the given dataset even layman can understand.

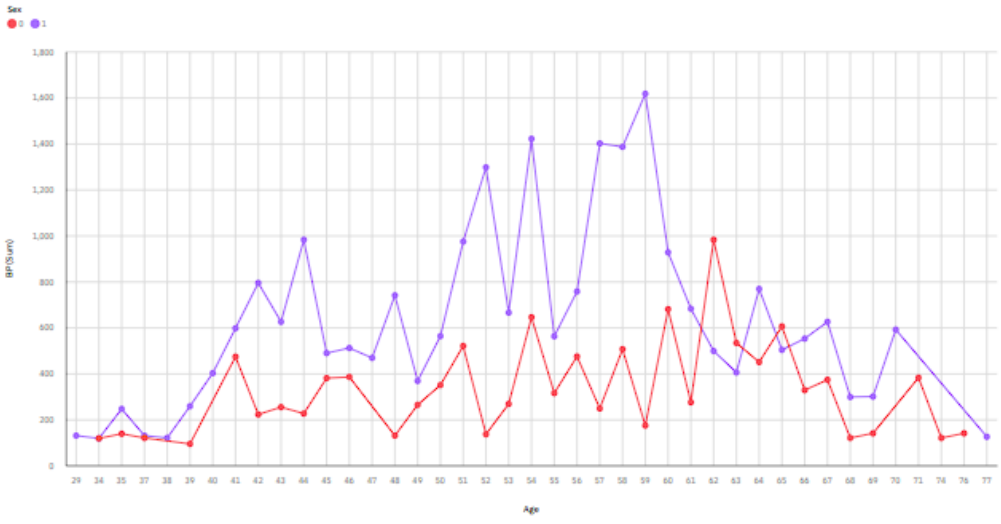
Tab 1

Age by Chest pain type and Sex



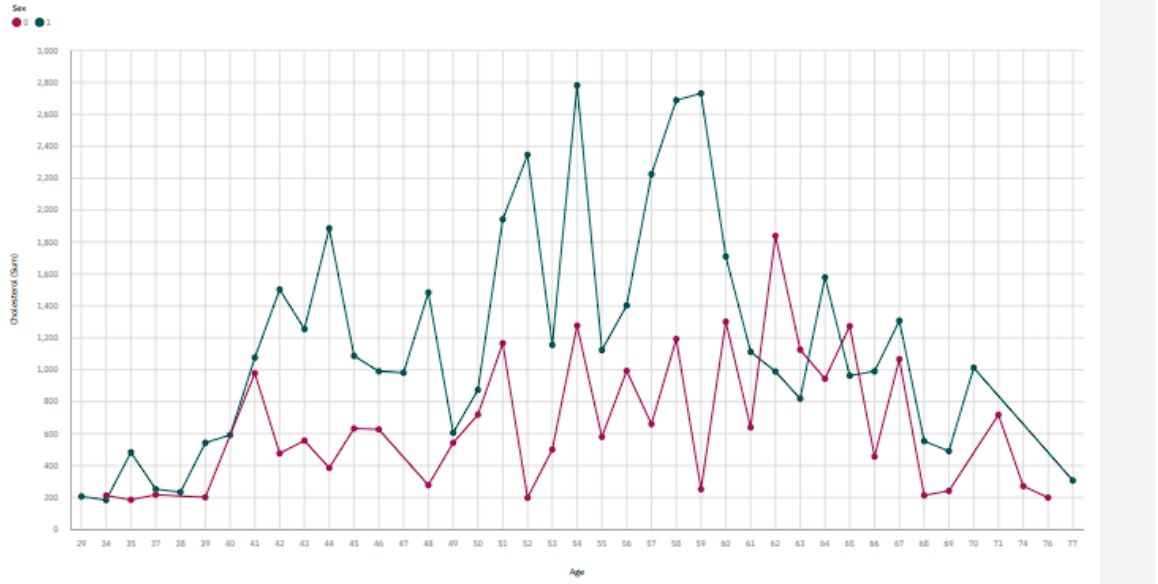
Tab 2

BP by Age colored by Sex



Tab 4

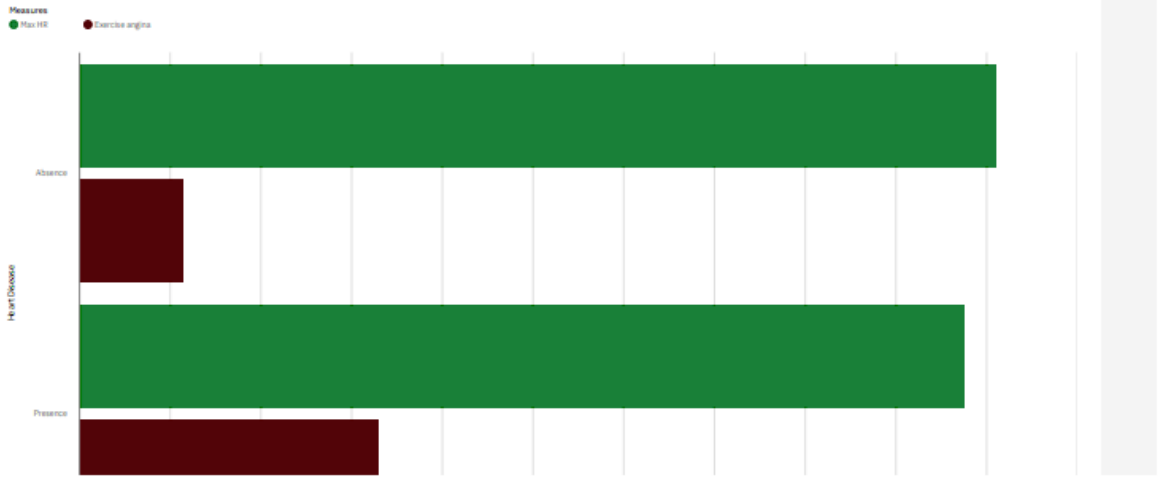
Cholesterol by Age colored by Sex



11/16/22, 9:36 PM Sprint3

Tab 5

Max HR and Exercise angina by Heart Disease



To create a story,which is quite similar to slideshare.We need to build the templates and place it in form of powerpoint and allott them with given time for each slide.So that we can able to create a video representation of the received graph representation.

1.4.4 Sprint 4

In final sprint we will document the process we followed thorughout the entire project to give desired results and submit it. Finally,we came to :

->Know fundamental concepts and can work on IBM Cognos Analytics

->Gain a broader understanding of plotting different visualizations to provide the suitable solution

->Able to create meaningful visualizations and the Dashboard(s).