

HEART DISEASE ANALYSIS PROJECT

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Table of CONTENTS

01

Introduction

02

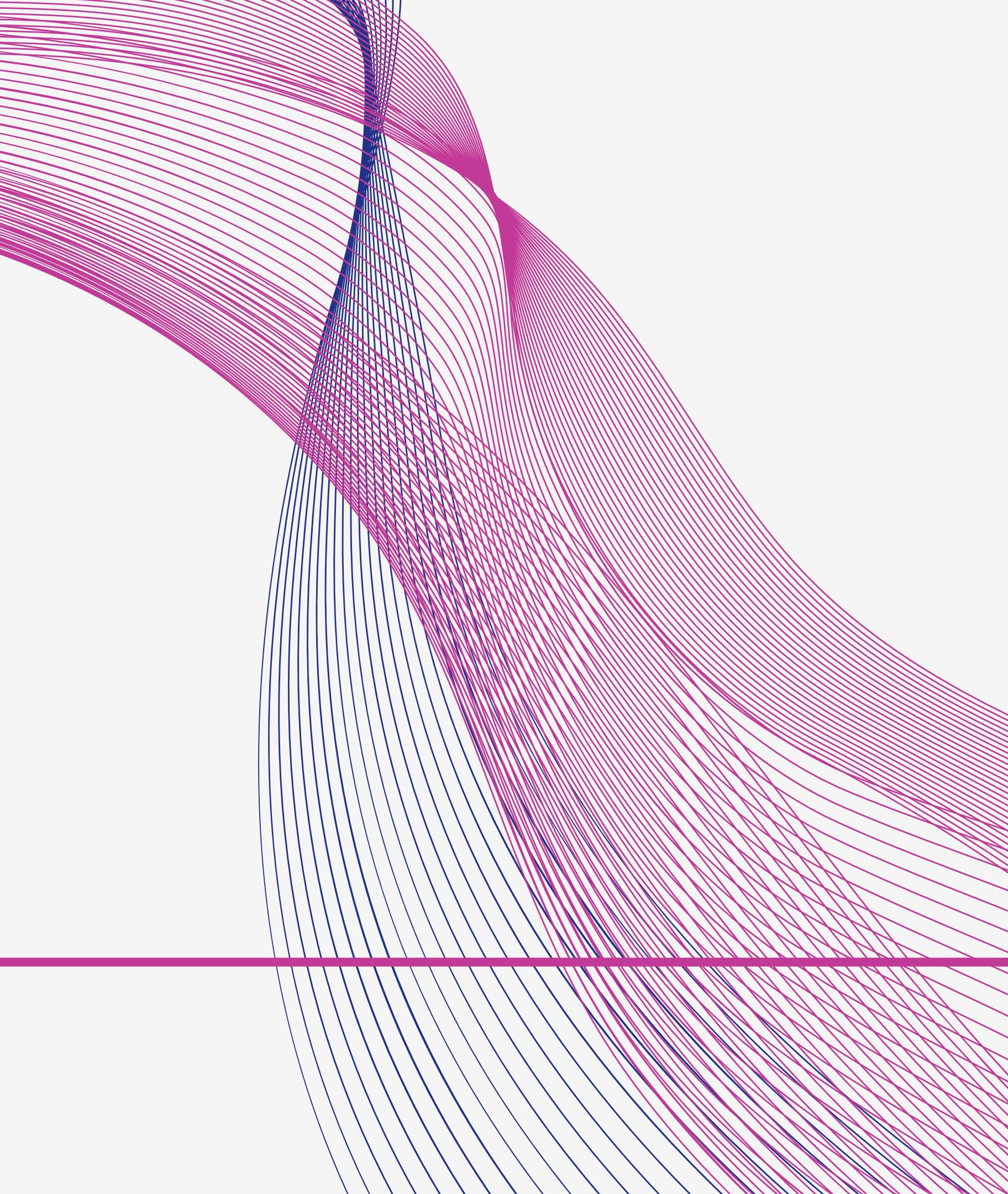
Dataset Sample

03

Exploratory Data
Analysis

04

Health Statistics



INTRODUCTION

Heart disease refers to a range of conditions that affect the heart's structure and function, and it is one of the leading causes of death worldwide.

Among various health concerns, heart disease remains a prominent issue with significant implications for public health.

Dataset Sample

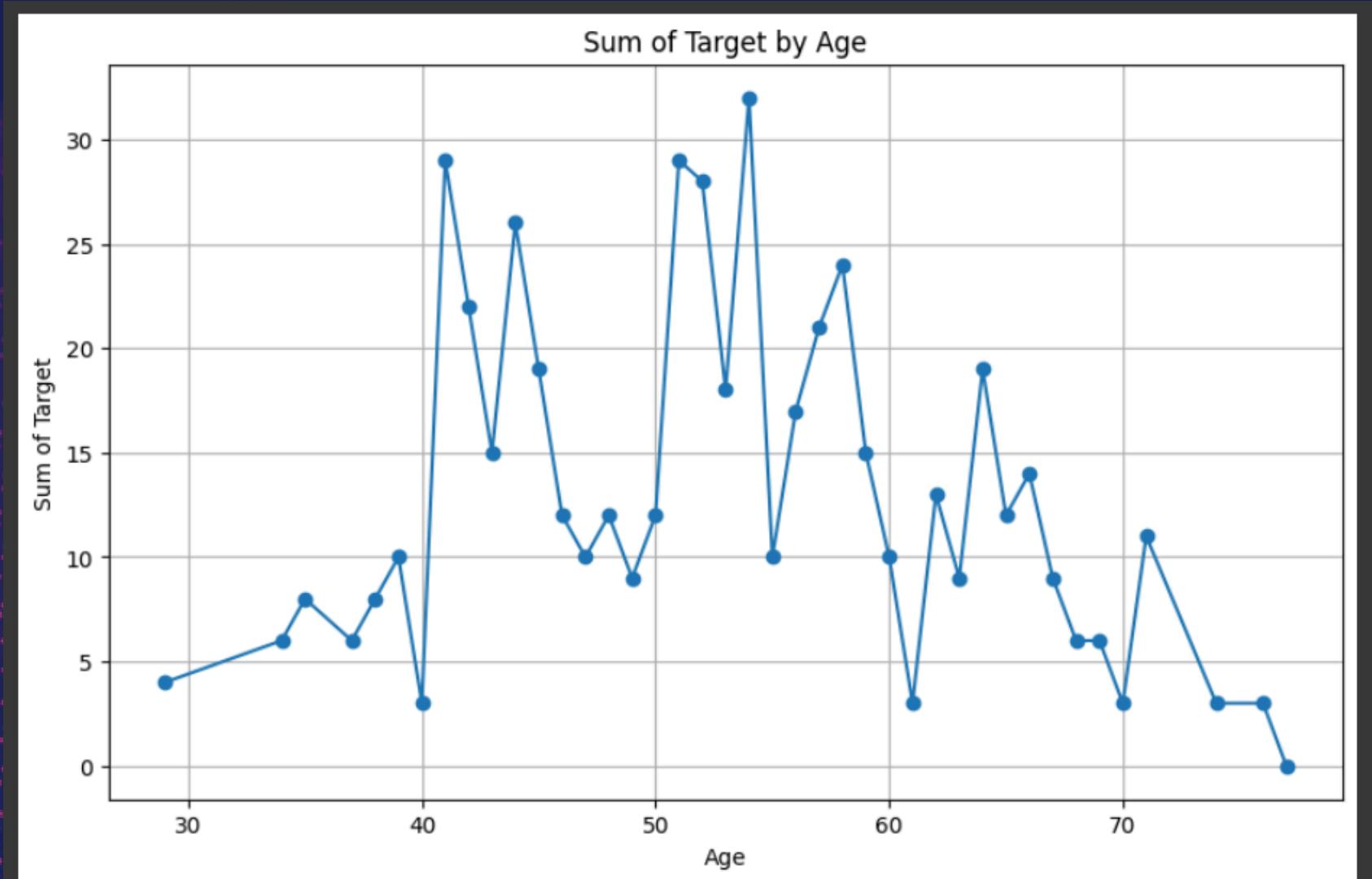
age	sex	cp	trestbps	chol	fbs	restecg	thalach	exang	oldpeak	slope	ca	thal	target
52	1	0	125	212	0	1	168	0	1	2	2	3	0
53	1	0	140	203	1	0	155	1	3.1	0	0	3	0
70	1	0	145	174	0	1	125	1	2.6	0	0	3	0
61	1	0	148	203	0	1	161	0	0	2	1	3	0
62	0	0	138	294	1	1	106	0	1.9	1	3	2	0
58	0	0	100	248	0	0	122	0	1	1	0	2	1
58	1	0	114	318	0	2	140	0	4.4	0	3	1	0
55	1	0	160	289	0	0	145	1	0.8	1	1	3	0
46	1	0	120	249	0	0	144	0	0.8	2	0	3	0
54	1	0	122	286	0	0	116	1	3.2	1	2	2	0
71	0	0	112	149	0	1	125	0	1.6	1	0	2	1
43	0	0	132	341	1	0	136	1	3	1	0	3	0
34	0	1	118	210	0	1	192	0	0.7	2	0	2	1
51	1	0	140	298	0	1	122	1	4.2	1	3	3	0
52	1	0	128	204	1	1	156	1	1	1	0	0	0
34	0	1	118	210	0	1	192	0	0.7	2	0	2	1
51	0	2	140	308	0	0	142	0	1.5	2	1	2	1
54	1	0	124	266	0	0	109	1	2.2	1	1	3	0
50	0	1	120	244	0	1	162	0	1.1	2	0	2	1
58	1	2	140	211	1	0	165	0	0	2	0	2	1
60	1	2	140	185	0	0	155	0	3	1	0	2	0
67	0	0	106	223	0	1	142	0	0.3	2	2	2	1
45	1	0	104	208	0	0	148	1	3	1	0	2	1
63	0	2	135	252	0	0	172	0	0	2	0	2	1
42	0	2	120	209	0	1	173	0	0	1	0	2	1
61	0	0	145	307	0	0	146	1	1	1	0	3	0
44	1	2	130	233	0	1	179	1	0.4	2	0	2	1
58	0	1	136	319	1	0	152	0	0	2	2	2	0
56	1	2	130	256	1	0	142	1	0.6	1	1	1	0
55	0	0	180	327	0	2	117	1	3.4	1	0	2	0
44	1	0	120	169	0	1	144	1	2.8	0	0	1	0
50	0	1	120	244	0	1	162	0	1.1	2	0	2	1
57	1	0	130	131	0	1	115	1	1.2	1	1	3	0
70	1	2	160	269	0	1	112	1	2.9	1	1	3	0
50	1	2	129	196	0	1	163	0	0	2	0	2	1

Exploratory Data Analysis

- Following Figure Shows that there are a total of 1025 Entries Registered with Patient Details like Age, Target, Resting Blood Sugar, Gender, etc.
- Describe Function also helps us to know the minimum, Maximum values of all the columns along with mean and standard deviation.

df.describe()														
	age	sex	cp	trestbps	chol	fbs	restecg	thalach	exang	oldpeak	slope	ca	thal	target
count	1025.000000	1025.000000	1025.000000	1025.000000	1025.000000	1025.000000	1025.000000	1025.000000	1025.000000	1025.000000	1025.000000	1025.000000	1025.000000	1025.000000
mean	54.434148	0.695610	0.942439	131.611707	246.000000	0.149268	0.529756	149.114146	0.336585	1.071512	1.385366	0.754146	2.323902	0.513171
std	9.072290	0.460373	1.029641	17.516718	51.59251	0.356527	0.527878	23.005724	0.472772	1.175053	0.617755	1.030798	0.620660	0.500070
min	29.000000	0.000000	0.000000	94.000000	126.000000	0.000000	0.000000	71.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
25%	48.000000	0.000000	0.000000	120.000000	211.000000	0.000000	0.000000	132.000000	0.000000	0.000000	1.000000	0.000000	2.000000	0.000000
50%	56.000000	1.000000	1.000000	130.000000	240.000000	0.000000	1.000000	152.000000	0.000000	0.800000	1.000000	0.000000	2.000000	1.000000
75%	61.000000	1.000000	2.000000	140.000000	275.000000	0.000000	1.000000	166.000000	1.000000	1.800000	2.000000	1.000000	3.000000	1.000000
max	77.000000	1.000000	3.000000	200.000000	564.000000	1.000000	2.000000	202.000000	1.000000	6.200000	2.000000	4.000000	3.000000	1.000000

Exploratory Data Analysis

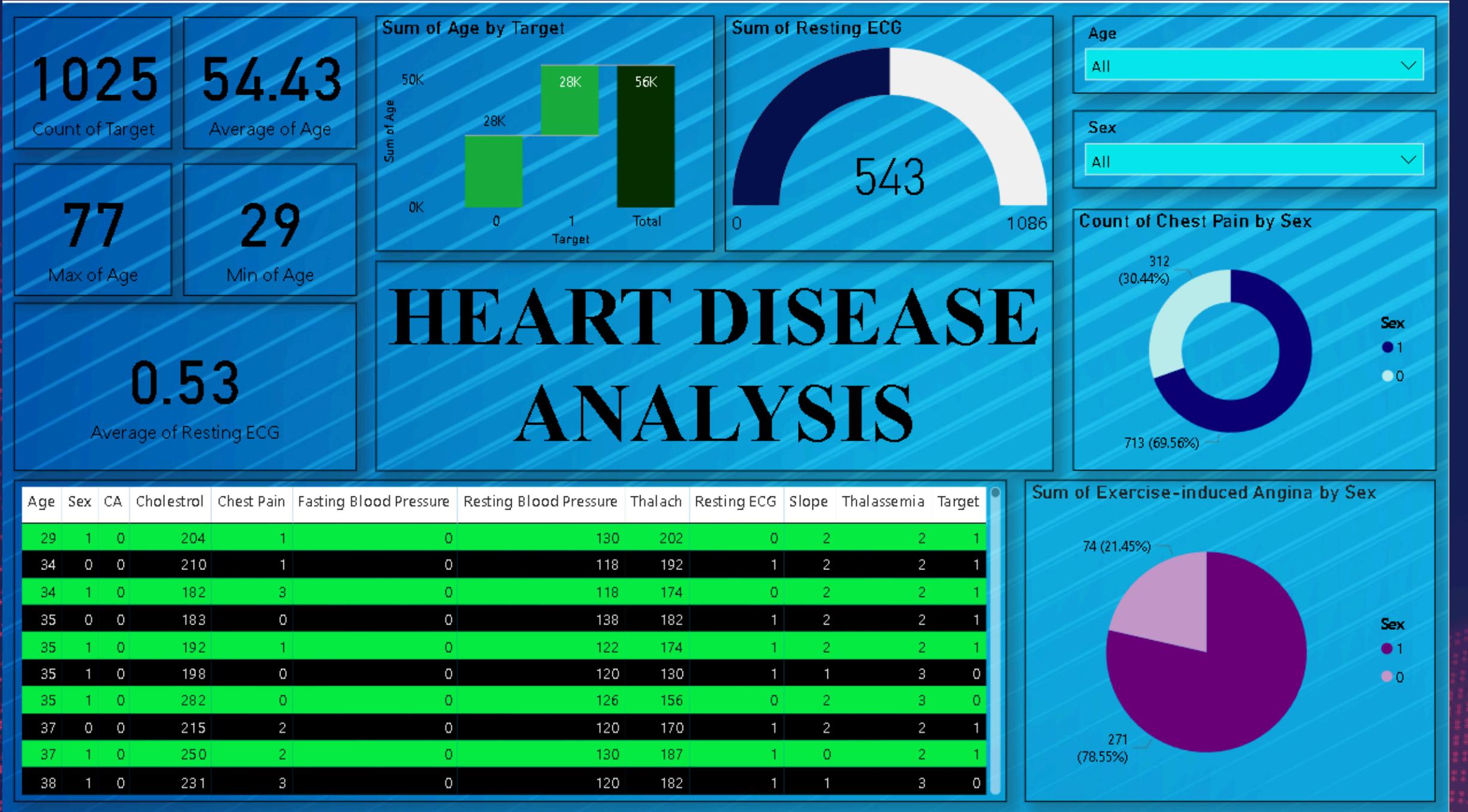


The Chart Shows the chances of Heart Attack Based on the Age of the Patient.

Link of EDA:-

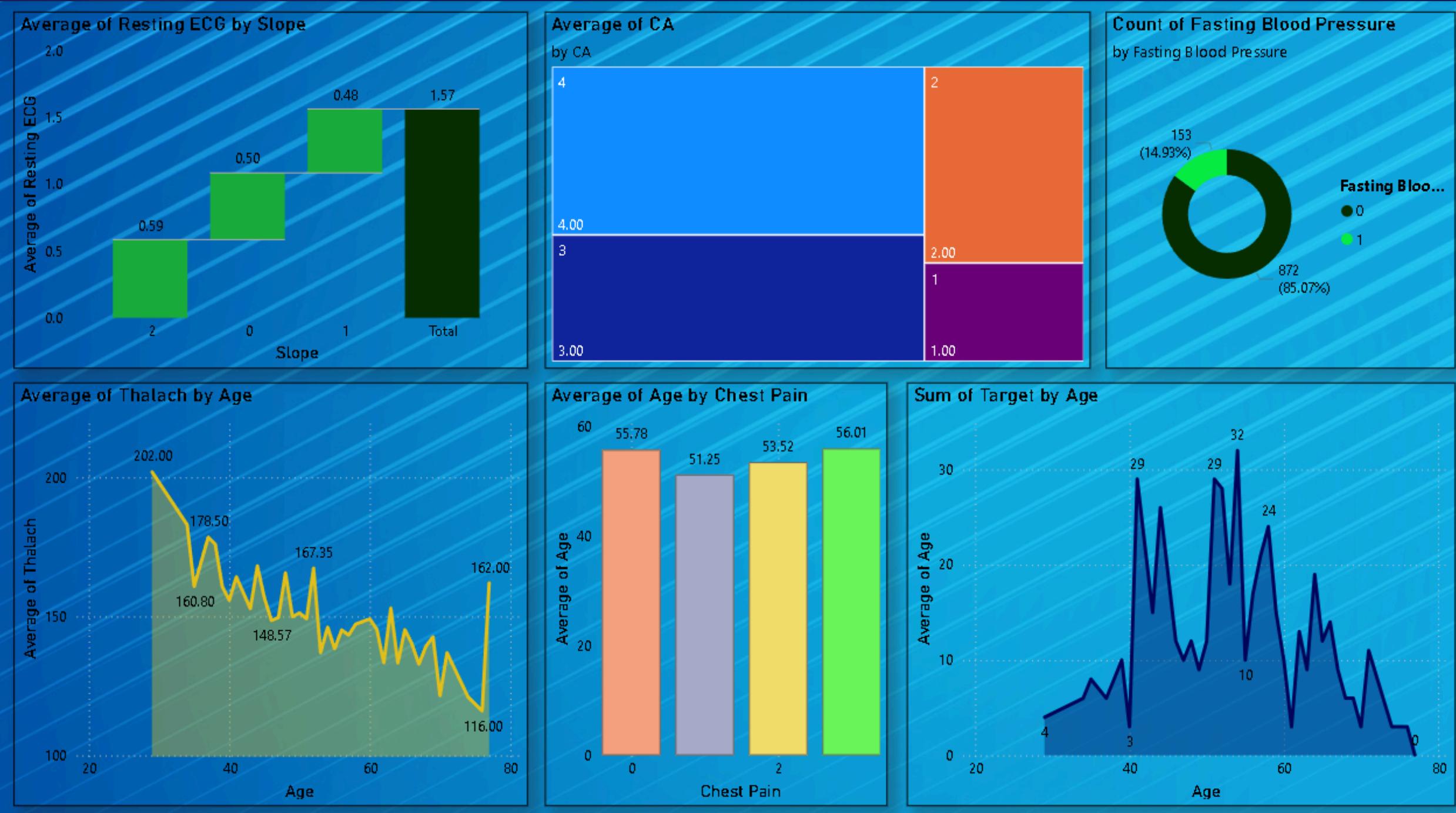
<https://colab.research.google.com/drive/1eykOY3jDZeZesf7t8o85MvplOou7JNs?usp=sharing>

Health Statistics



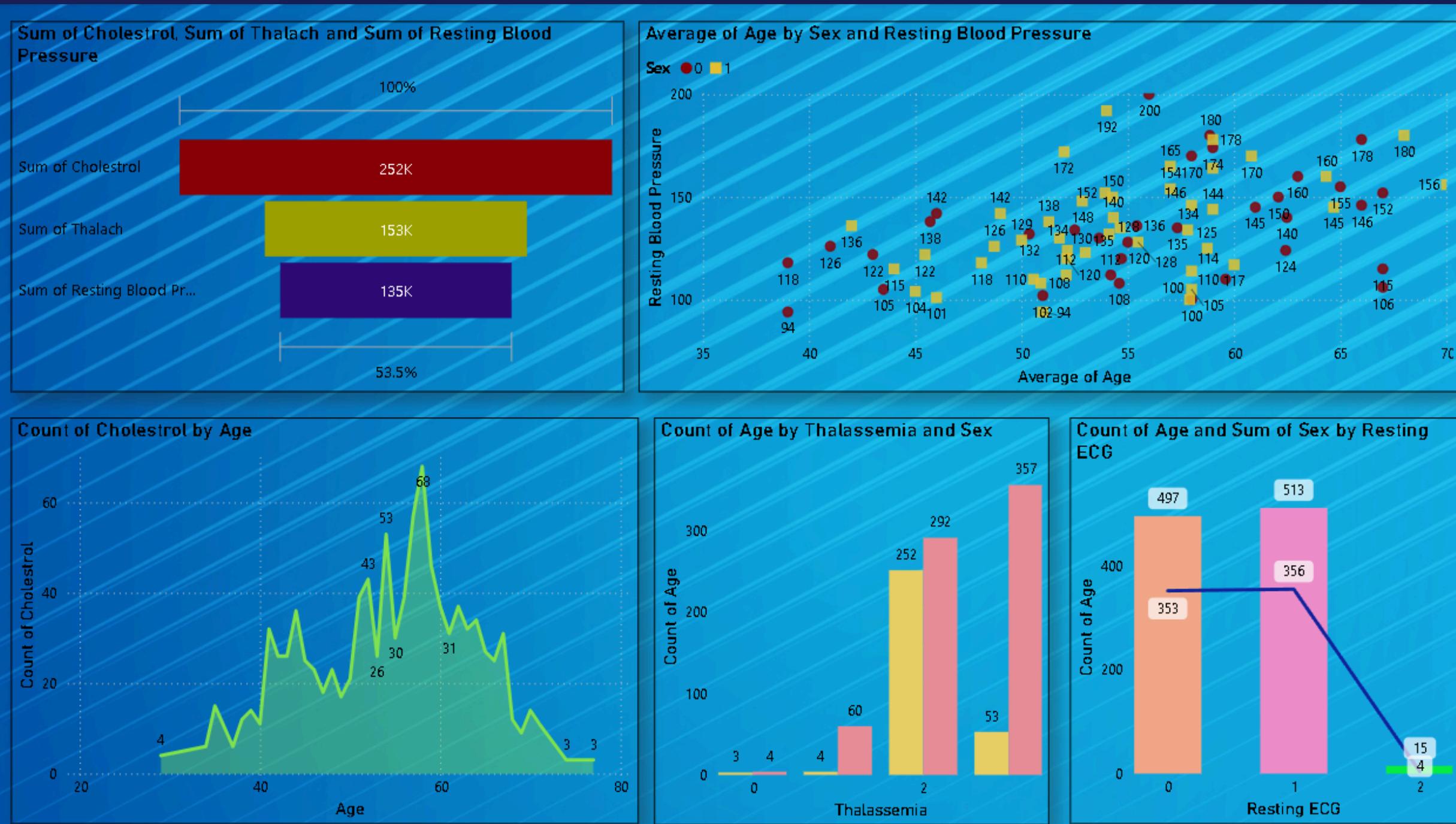
- The Visualization shows that 78.55 % male have Exercise induced angina. It is a very common symptom of Coronary Artery Disease.
- Chest pain is very often related to as an initial symptom of Heart Disease which is again very common in Males amounting to around 69.56% males getting affected by it.

Health Statistics



- Coronary Artery, referred as CA of Type 4 is very common on an Average, followed by Type 3, Type 2 and Type 1.
- There are high Chances of Heart Disease for a person between the Age of 50 to 60.

Health Statistics



- There is a frequent increase visible in the patient with High Cholesterol between the age of 55 to 61.
- Resting Blood Pressure generally rises with Age, especially notable from 50 onwards.

THANK YOU