Project Name: CorHealth

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Introduction

This project is designed to find the chance of getting cardiovascular disease, correlations of potential causes, trends and any clear indications of heart health based on users' personal and health behavioral information.

Welcome Page

When using our program, we will display the options in the menu for users to choose from, including understanding the attribute correlation to cardiovascular disease, obtaining key attributes analysis, and getting prediction based on their personal information.

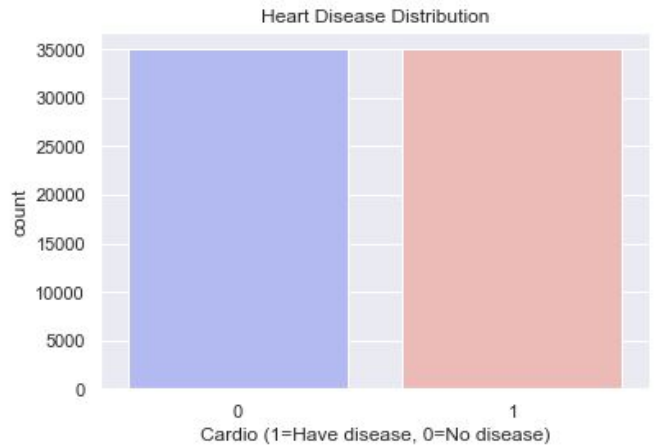
```
                Menu
==========================================
Feature 1: Heart Disease Distribution
Feature 2: Attribute Correlation to Cardiovascular Disease
Feature 3: Key Attributes Analaysis
Feature 4: Prediction

                Options
==========================================
If you want Feature 1, input 1
If you want Feature 2, input 2
If you want Feature 3, input 3
If you want Feature 4, input 4
If you do not want to continue, input exit
```

Please download the "cardio_train.csv" file.

Feature 1

Before performing analysis, our program will show users the percentage of people with cardiovascular disease versus people who do not have cardiovascular disease.

```
Feature 1
The % of patients who have not had cardio disease: 50.03%
The % of patients who have had cardio disease: 49.97%
```

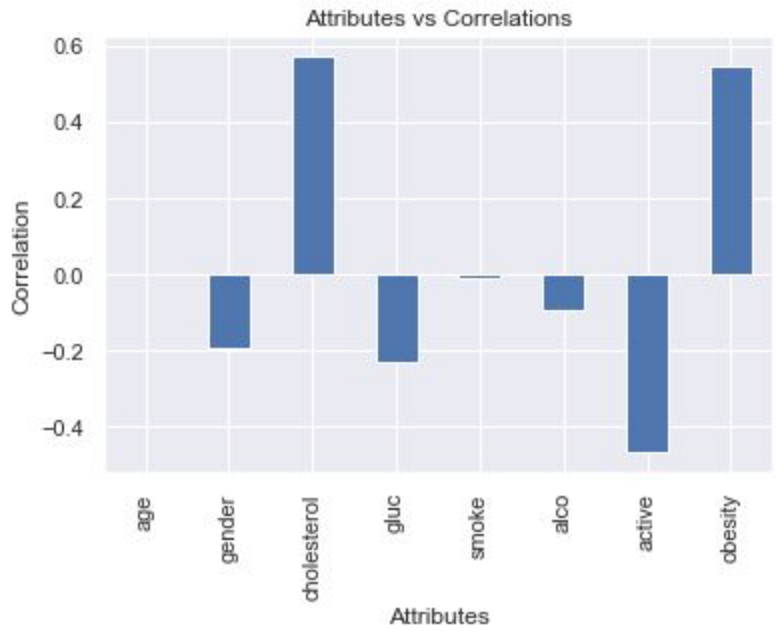


Feature 2

Our program used collected data to build a prediction model.

Our model will display the most important driven factors for getting cardiovascular disease.

```
Feature 2
```

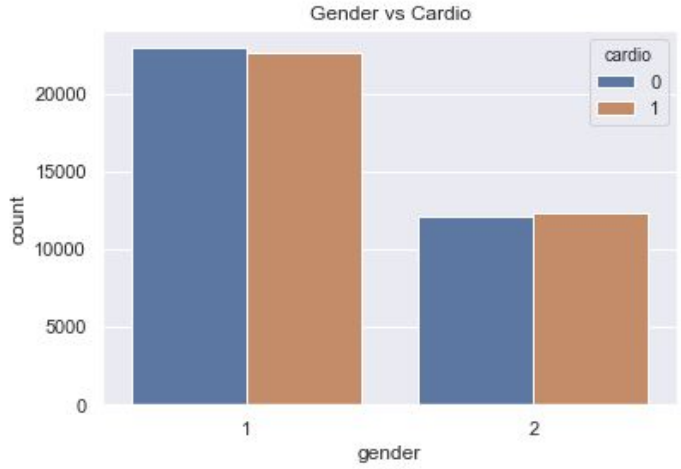


	Attribute	Coefficient
0	age	0.001346
1	gender	−0.195377
2	cholesterol	0.570289
3	gluc	−0.234476
4	smoke	−0.010327
5	alco	−0.097524
6	active	−0.468912
7	obesity	0.547765

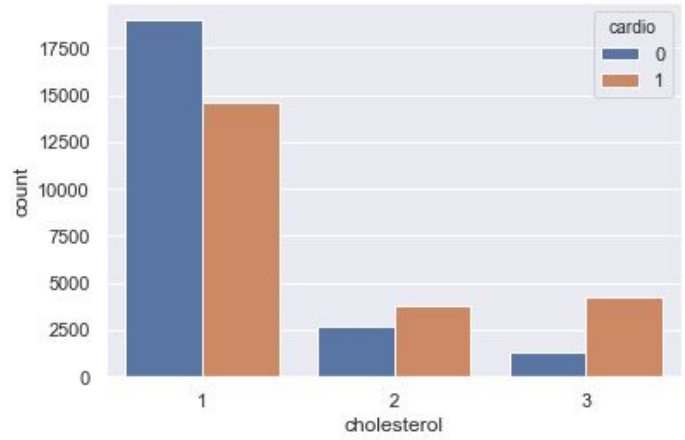
Feature 3

Based on the results from feature 2, our model will display the visualization of three most important factors (gender, cholesterol level, and active level) that lead to cardiovascular disease.

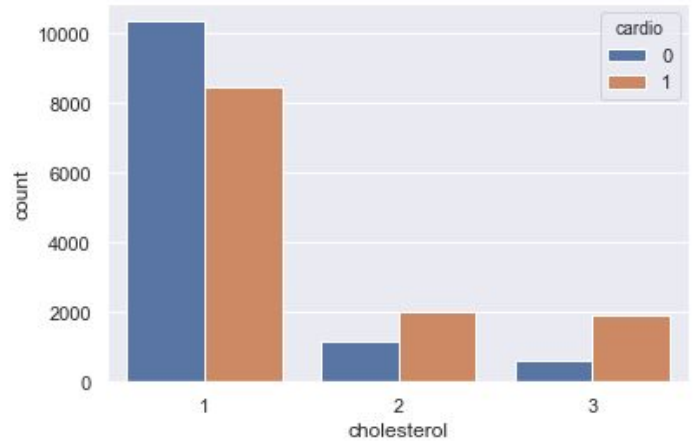
Feature 3



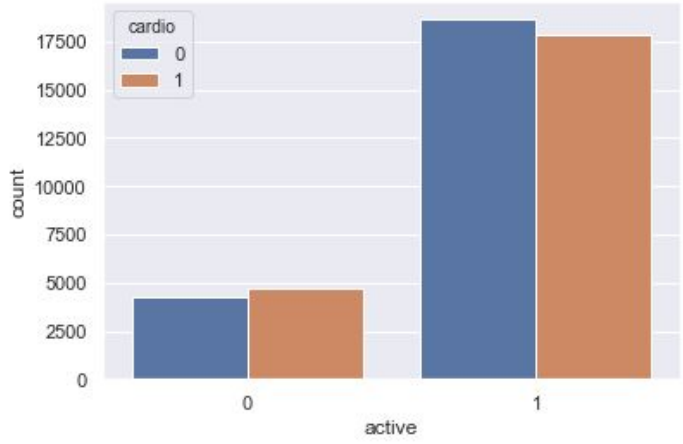
Cholesterol vs Cardio: Female



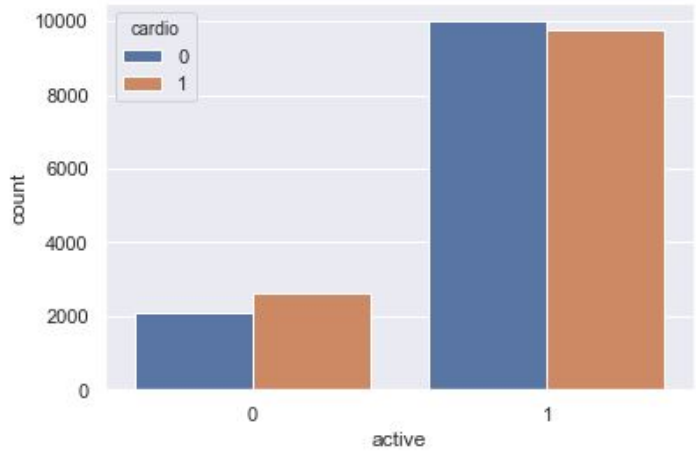
Cholesterol vs Cardio: Male



Active vs Cardio: Female



Active vs Cardio: Male



Feature 4

Users who want to predict the probability of getting cardiovascular disease need to enter their age, gender, height, weight, cholesterol level, glucose level, whether they are smoking or not, drinking alcohol or not, and staying active or not. Based on their input, our model will analyze the information and perform the prediction, showing a result of prediction.

```
Feature 4

What is patient's age? 45

What is patient's gender? (F/M) M

What is patient's height? (cm) 189

What is patient's weight? (kg) 90

What is patient's cholesterol level? ( 1 = low, 2 = medium, 3 = high) 3

What is patient's glucose level? ( 1 = low, 2 = medium, 3 = high) 2

Does the patient smoke? (Yes = 1, No = 0) 1

Does the patient drink alcohol? (Yes = 1, No = 0) 0

Does the patient work out? (Yes = 1, No = 0) 1

The patient has 58% chance of getting cardio disease.
```