–––––؛Graphical user interface, application

Description automatically generatedLogo, company name

Description automatically generated

**Big Data Project**

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Presented by:

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**Idea:**

**Heart disease is the leading cause of death globally, and its prevalence is increasing rapidly. Early detection and prevention of heart disease are crucial for reducing mortality rates and improving the quality of life for patients.**

**We suggest a big data project that aims to develop a predictive model for the early detection of heart disease.**

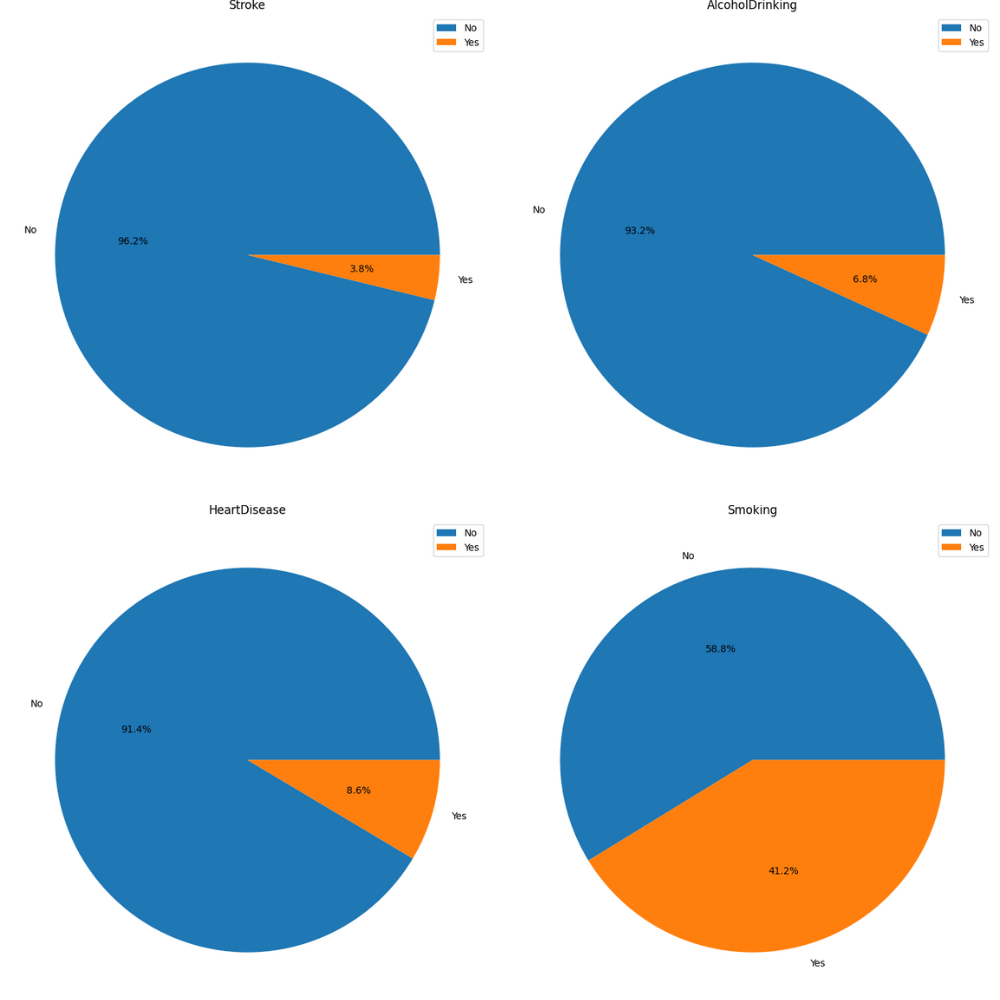
**Project pipeline**

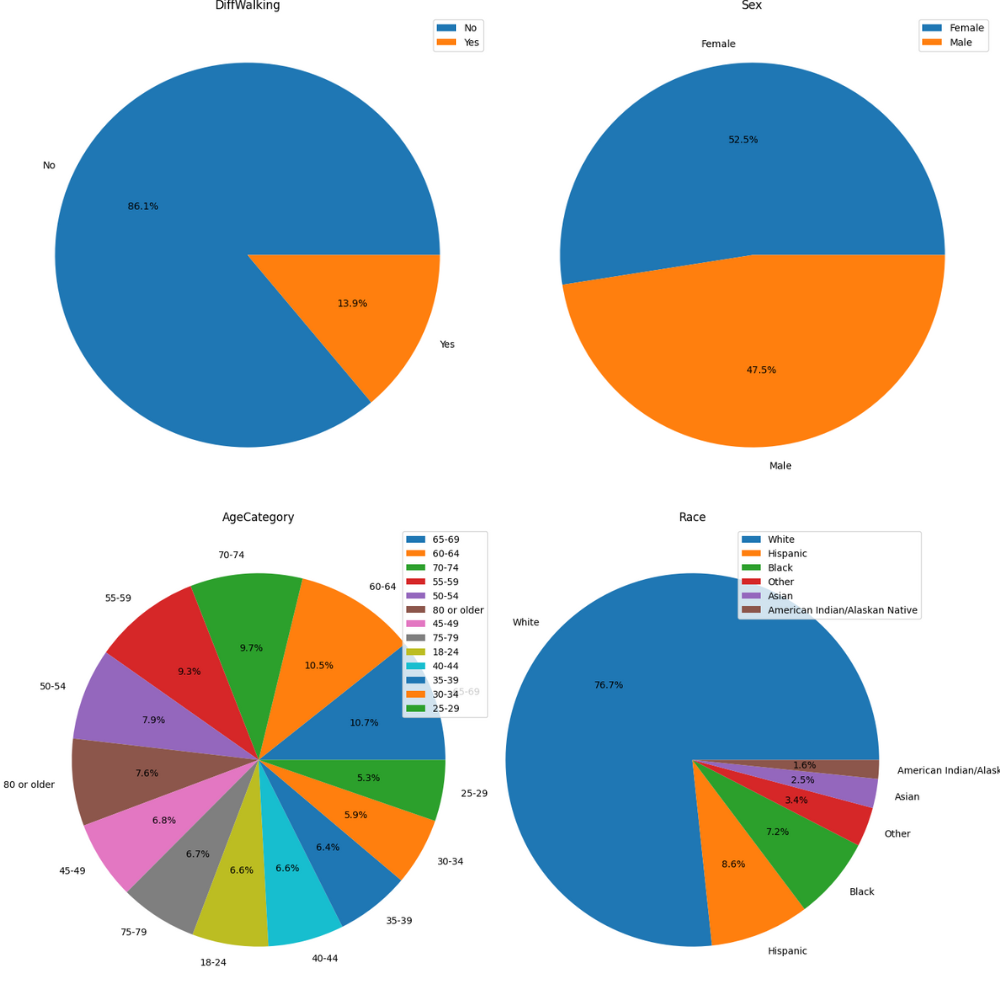
Data preprocessing

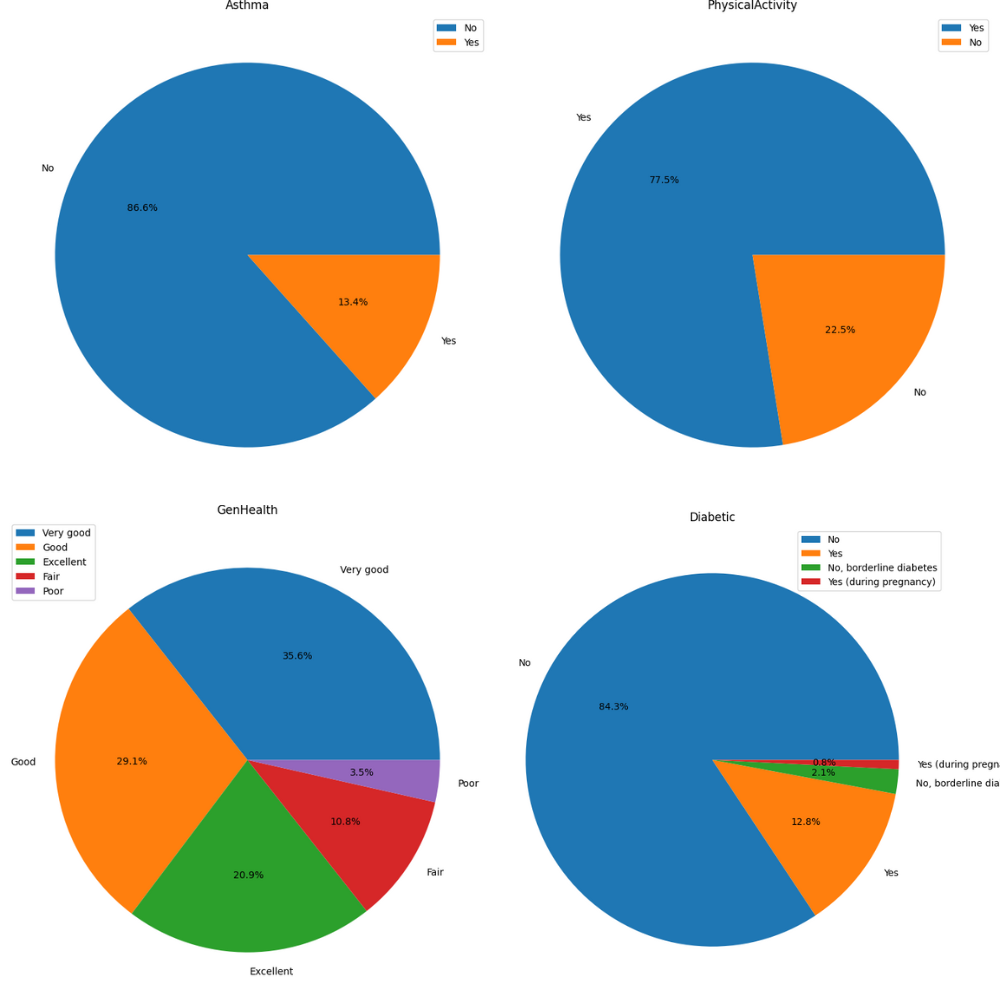
* Every categorical class changed to numerical
  + change columns that contain values of Yes / No with 0 / 1
  + change sex column that contain Male / Female with 1 / 0
  + convert AgeCategory, Race, Diabetic and GenHealth columns with increasing values
* Check If non-values exist and deal with it

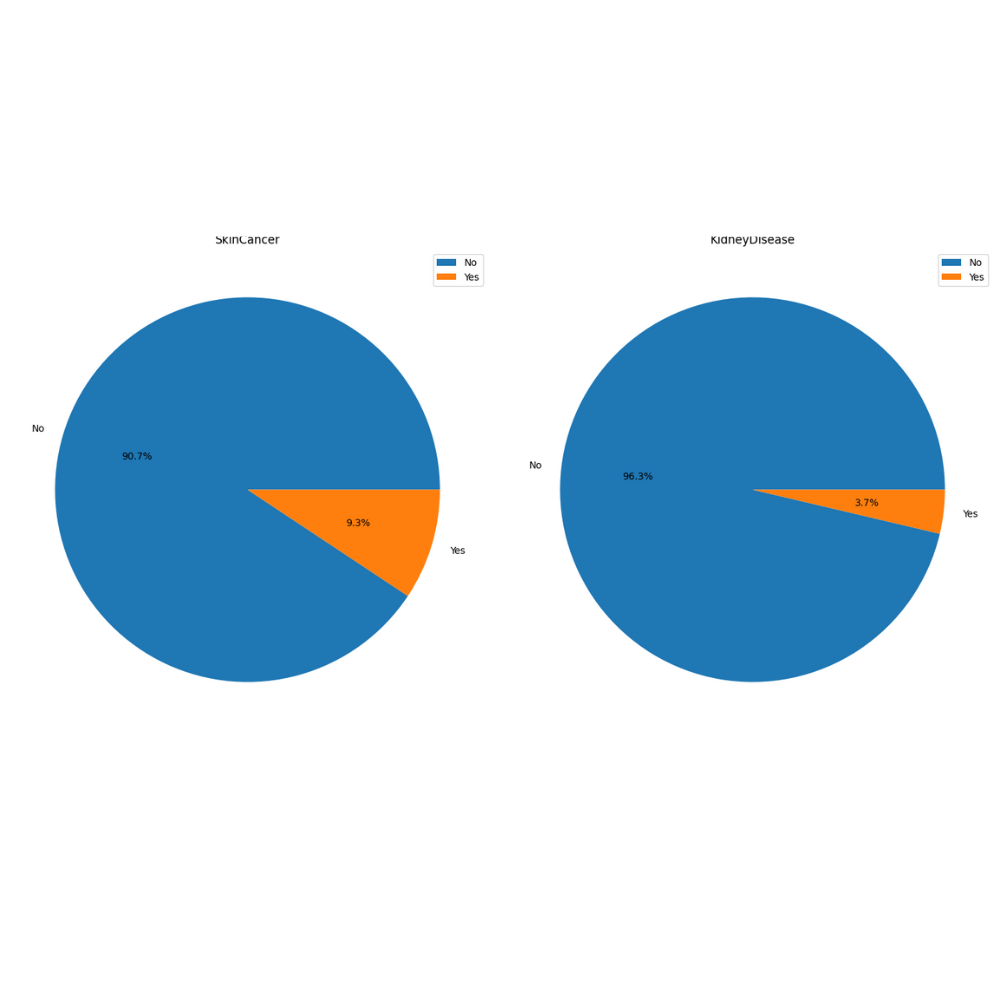
Data visualization

***Show distribution for each categorical class***

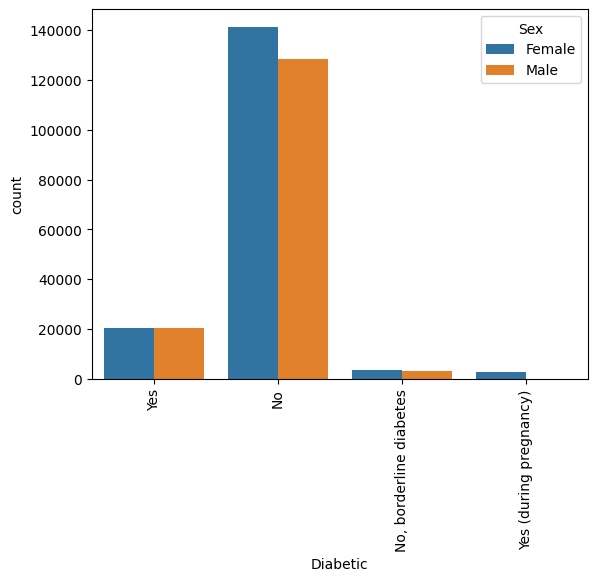
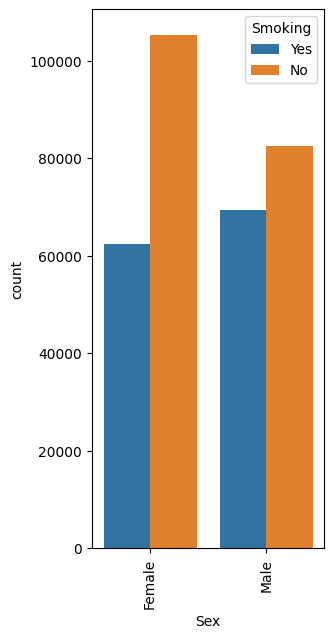




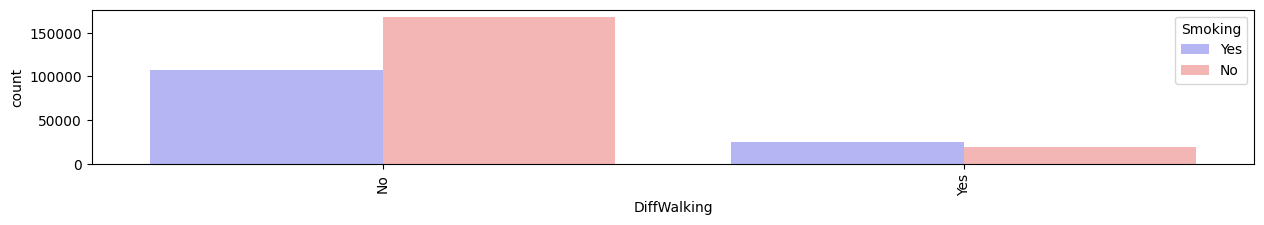
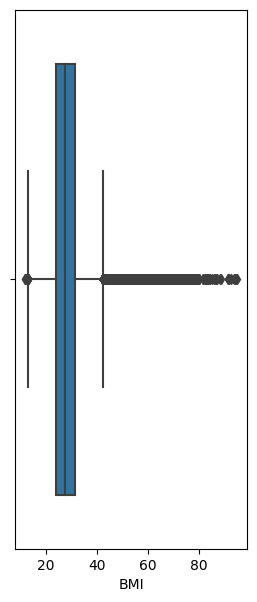
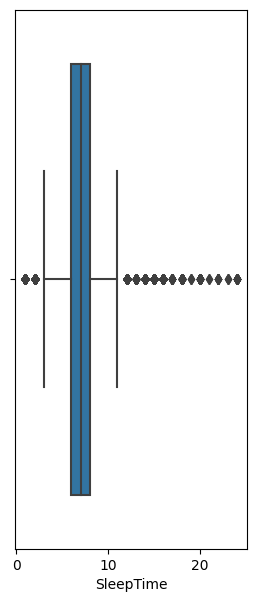
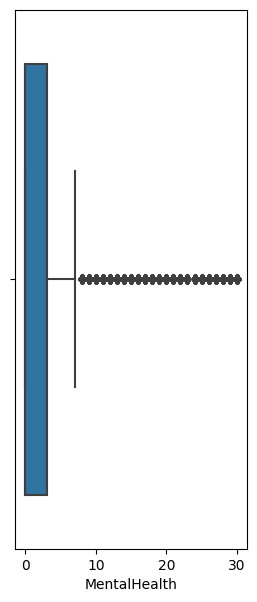
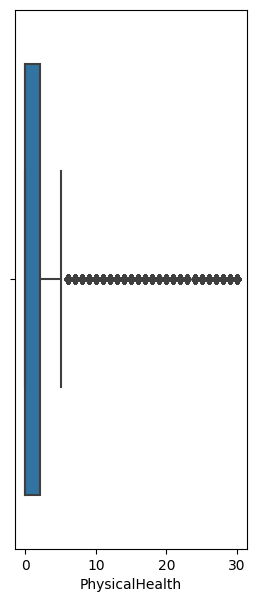




Extracting insights from data.

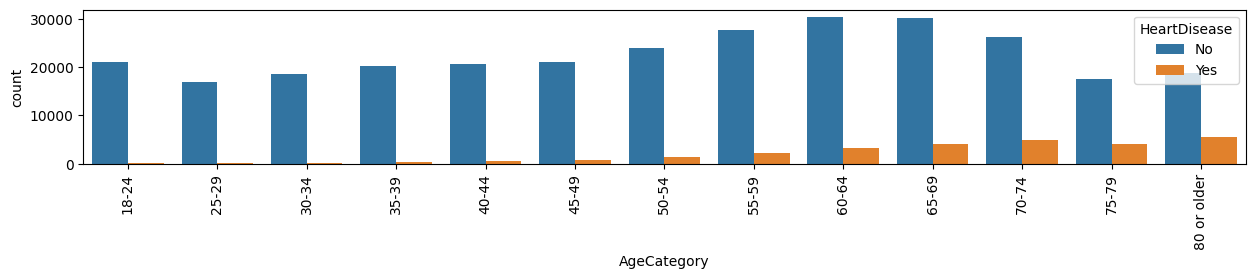
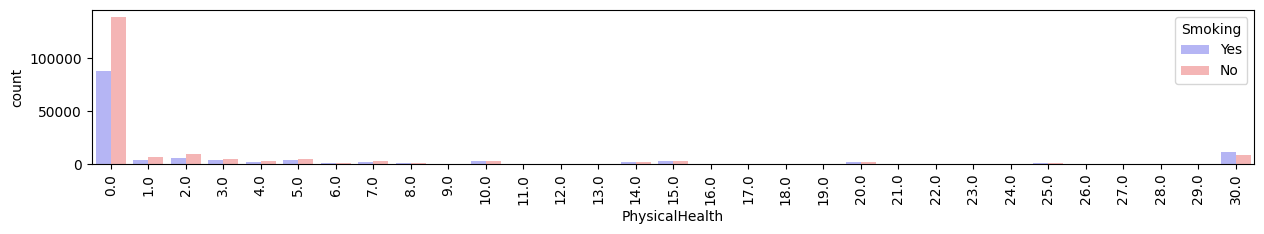


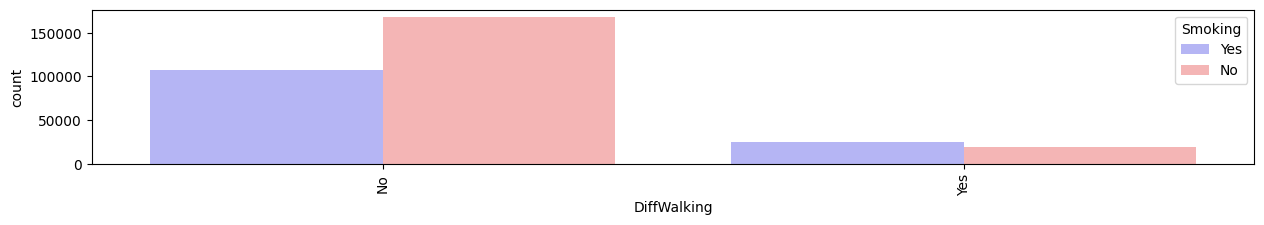
* first graph shows male have slightly more diabetes than female
* second graph shows female are smoking less than man



* first graph shows bmi average is between 20 and 40 and there are many outliers
* fourth graph shows is between 5 and 8 hours and there are outliers

Association Rules





1-no smoking → good physical health

2-more age → more heart disease

3- smoking → diff walking

Model/Classifier training

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Results and Evaluation

Unsuccessful trials that were not included in the

final solution.

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Any Enhancements and future wor**k**