**Understanding the Dataset:**

**Context:**

Today, heart failure diseases affect more people worldwide than other autoimmune conditions. Cardiovascular Diseases (CVDs) affect the heart and obstruct blood flow through the blood vessels. Chronic ailments in CVD include heart disease (heart attack), cerebrovascular diseases (strokes), congestive heart failure, and many more pathologies. Worldwide, CVDs kill around 17 million a year, and death rates due to heart diseases have increased after the COVID-19 pandemic.

CVDs commonly occur when the heart fails to supply blood under normal conditions, leading to **high blood pressure, diabetes, chest pain, or other cardiac disorders**. Initially, hospitals use regular tools like ECGs to determine and evaluate the stage of the disease. Better technologies like MCGs help in detecting these diseases when they are in an early stage. However, such devices and technologies are not just expensive and unfit for smaller clinics for heart disease diagnosis but also time-consuming and sensitive to tangential causes. Thus, technicians and clinicians would greatly benefit if there was an autonomous system in place that could perform a test for heart disease detection and warn of CVD risk at an early stage. With AI entering every other industry with the advance of computer science, medical science perhaps has the vastest scope of need and use for artificial intelligence solutions -- especially in developing countries.

Several risk factors for manual heart disease prediction may include **inactivity in a physical form, unhealthy eating habits, or even the consumption of alcohol**. **Preexisting conditions, age, chest pain level, blood test results, and several such factors can be ensembled together computationally for heart disease prediction**. With such well-defined parameters and the rise of data science, a data-driven approach can surely help in heart disease prediction using machine learning technologies. Early identification of heart disease of improved diagnosis and high-risk individuals using a prediction model can be recommended for a fatality rate reduction, and decision-making is improved for further treatment and prevention.

**Source**: https://www.kaggle.com/datasets/rishidamarla/heart-disease-prediction

Heart_Disea...    heart.csv