**Name:**

AKPAN, JOSEPH MICHAEL

**Regno:**

11/SC/CO/137

**Project Title**

Early detection and diagnosis of heart disease using Artificial Neural Network

**Time spent**

2 weeks

**Problem Definition**

The major challenge in heart disease is its detection. There are instruments available which can predict heart disease but either they are expensive or are not efficient to calculate the chance of heart disease in humans. Early detection of cardiac diseases can decrease the mortality rate and overall complications. However, it is not possible to monitor patients every day in all cases accurately and consultation of a patient for 24 hours by a doctor is not available since it requires more patience,time and expertise.

Since we have a significant amount of data in today’s world, compared to centuries ago, we can use various

machine learning algorithms to analyze the data for hidden patterns. The hidden patterns can be used for ailments diagnosis in the health sector.

I used a dataset on heart disease available on kaggle to train the system .One of the major solutions this system provides is to detect and diagnose heart disease based on the given attributes of a patient that whether that particular person has heart disease or not and other is the experimental task to diagnose and find out various insights from this dataset which could help in understanding the problem more.

**Implementation**

The system accepts 14 parameters which includes

Age,

sex,

chest pain type (4 values),

resting blood pressure,

serum cholestoral in mg/dl,

fasting blood sugar > 120 mg/dl,

resting electrocardiographic results (values 0,1,2),

maximum heart rate achieved,

exercise induced angina,

oldpeak = ST depression induced by exercise relative to rest,

the slope of the peak exercise ST segment,

number of major vessels (0-3) colored by flourosopy,

thal: 0 = normal; 1 = fixed defect; 2 = reversable defect