1/24/2021 Model

```
# Importing Libraries
In [1]:
           import pandas as pd
           from sklearn.model_selection import train_test_split
           from sklearn.preprocessing import MinMaxScaler
           from sklearn.neighbors import KNeighborsClassifier
In [2]:
          # Importing Data set
           df = pd.read_csv(".\heart.csv")
           df.head()
Out[2]:
             age
                       ср
                          trestbps chol fbs restecg thalach exang
                                                                       oldpeak slope
                                                                                       ca
                                                                                           thal target
                 sex
          0
                        3
                                     233
                                            1
                                                    0
                                                                                     0
                                                                                        0
                                                                                              1
              63
                    1
                               145
                                                           150
                                                                    0
                                                                            2.3
                                                                                                      1
                                     250
              37
                        2
                                            0
                                                                    0
                                                                            3.5
                                                                                     0
                                                                                        0
                                                                                              2
                                                                                                     1
          1
                    1
                               130
                                                    1
                                                           187
                                                    0
                                                                                              2
          2
              41
                    0
                        1
                               130
                                     204
                                            0
                                                           172
                                                                     0
                                                                            1.4
                                                                                     2
                                                                                        0
                                                                                                      1
          3
                                                                     0
                                                                                     2
                                                                                              2
                                                                                                      1
              56
                        1
                               120
                                     236
                                            0
                                                    1
                                                           178
                                                                            8.0
                                                                                        0
                    1
              57
                    0
                        0
                               120
                                     354
                                            0
                                                    1
                                                           163
                                                                     1
                                                                            0.6
                                                                                     2
                                                                                        0
                                                                                              2
                                                                                                      1
In [3]:
          # Spliting Target and Features Data
          y=df["target"]
          X=df.drop("target",axis=1)
In [4]:
              Cheacking For Null values
          X.isna().sum()
          y.isna().sum()
Out[4]: 0
              Datatypes of our data
In [5]:
          X.dtypes
          y.dtypes
          X.describe()
Out[5]:
                                                      trestbps
                                                                     chol
                                                                                  fbs
                                                                                                     thalach
                       age
                                                ср
                                                                                          restecq
                                   sex
          count 303.000000 303.000000
                                        303.000000
                                                    303.000000
                                                               303.000000
                                                                           303.000000
                                                                                      303.000000
                                                                                                  303.000000
                  54.366337
                                                   131.623762 246.264026
                                                                             0.148515
                              0.683168
                                          0.966997
                                                                                         0.528053
                                                                                                  149.646865
          mean
            std
                   9.082101
                              0.466011
                                          1.032052
                                                     17.538143
                                                                51.830751
                                                                             0.356198
                                                                                         0.525860
                                                                                                    22.905161
                                                                                                   71.000000
           min
                  29.000000
                              0.000000
                                          0.000000
                                                     94.000000
                                                               126.000000
                                                                             0.000000
                                                                                         0.000000
           25%
                  47.500000
                              0.000000
                                          0.000000
                                                    120.000000 211.000000
                                                                             0.000000
                                                                                         0.000000 133.500000
           50%
                  55.000000
                              1.000000
                                          1.000000
                                                    130.000000
                                                               240.000000
                                                                             0.000000
                                                                                         1.000000 153.000000
```

75%

max

61.000000

77.000000

1.000000

1.000000

2.000000

3.000000

140.000000

200.000000

274.500000

564.000000

0.000000

1.000000

1.000000

166.000000

2.000000 202.000000

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```
# Splitting Training And Testing Dataset
In [6]:
         X_train,X_test,y_train,y_test=train_test_split(X,y,test_size=0.3,random_state=18,strati
In [7]:
         # Fitting and scaling the data
         scaler = MinMaxScaler()
         X_train = scaler.fit_transform(X_train)
         X_test = scaler.transform(X_test)
         # Training the model
In [8]:
         model = KNeighborsClassifier()
         model.fit(X_train,y_train)
        KNeighborsClassifier()
Out[8]:
         # Testing The model
In [9]:
         model.score(X_test,y_test)
Out[9]: 0.8681318681318682
```