```
import io
import pandas as pd
df = pd.read_csv('winequality-red.csv')
df

#2 Rescaling data
import pandas as pd
import numpy as np
from sklearn import preprocessing
import scipy.stats as s
print("\n\n Data Scaled between 0 to 1")
data_scaler = preprocessing.MinMaxScaler(feature_range=(0, 1))
data_scaled = data_scaler.fit_transform(df)
print("\n Min Max Scaled Data")
print("----------------------")
print(data_scaled.round(2))

#3 standardizing data
print("\n Standardizing data")
print("------------------------")
X_train=df
print("Original data \n",X_train)
print("\n Initial mean:",s.tmean(X_train).round(2))
print("Initial Standard Deviation:",round(X_train.std(),2))
X_scaled = preprocessing.scale(X_train)
X_scaled.mean(axis=0)
X_scaled.std(axis=0)
print("\n Standardized data \n",X_scaled.round(2))
print("\n scaled mean: ",s.tmean(X_scaled).round(2))
print("Scaled Standard Deviation: ",round(X_scaled.std(),2))

#4 Normalizing data
dn = preprocessing.normalize(df, norm='l1')
print("\n L1 Normalized data")
print("-------------")
print(dn.round(2))

# 5 Binarize data
data_binarized = preprocessing.Binarizer(threshold=2).transform(df)
print("\n Binarized data")
print("\n -----------------")
print(data_binarized)
```