PRAC 1

```
import pandas as pd
import numpy as nm

df=pd.read_csv('Iris.csv')

df.isnull().sum()

df.describe()
df.head
df.info()
df.shape
df.dtypes
print(df.columns)

from sklearn import preprocessing
min_max_scaler = preprocessing.MinMaxScaler()

x = df.iloc[:,:4]
x

from sklearn import preprocessing
min_max_scaler = preprocessing.MinMaxScaler()
x_scaled = min_max_scaler.fit_transform(x)

df_normalized = pd.DataFrame(x_scaled)
df_normalized

df['Species'].unique()

label_encoder = preprocessing.LabelEncoder()
df['Species'] = label_encoder.fit_transform(df['Species'])

df['Species'].unique()

print(df.columns.tolist())

features_df = df.drop(columns=['Species'])  # if 'species' is the actual lowercase name

enc = preprocessing.OneHotEncoder()
enc_df=pd.DataFrame(enc.fit_transform(df[['Species']]).toarray())

df_encode = features_df.join(enc_df)
df_encode

df_encode.rename(columns = {0:'Iris-Setosa',
1:'Iris-Versicolor',2:'Iris-virginica'}, inplace = True)

df_encode
```