PRACTICAL-1
A-Utility Start CSV to HORUS

```
import pandas as pd
sInputFileName = '/content/Country.csv'
InputData = pd.read_csv(sInputFileName, encoding = "latin-1")
print('Input Data Values ==================')
print(InputData, "\n==================")
# Processing Rules
ProcessData = InputData
# Remove columns ISO-2-Code and ISO-3-CODE
ProcessData.drop('ISO-2-CODE', axis = 1, inplace = True)
ProcessData.drop('ISO-3-Code', axis = 1, inplace = True)
# Rename Country and ISO-M49
ProcessData.rename(columns = {'Country': 'CountryName'}, inplace = True)
ProcessData.rename(columns = {'ISO-M49': 'CountryNumber'}, inplace = True)
# Set new Index
ProcessData.set_index('CountryNumber', inplace = True)
# Sort data by CurrencyNumber
ProcessData.sort_values('CountryName', axis = 0, ascending =False, inplace=True)
print('\n=====Process Data Values=====')
print(ProcessData)
# Output Agreement
OutputData=ProcessData
sOutputFileName='/content/drive/MyDrive/Country.csv'
OutputData.to_csv(sOutputFileName, index = False)
print('CSV to HORUS - Done')
```

Output:

```
Input Data Values ==================================
                     Country ISO-2-CODE ISO-3-Code  ISO-M49
0                Afghanistan         AF         AFG        4
1              Aland Islands         AX         ALA      248
2                    Albania         AL         ALB        8
3                    Algeria         DZ         DZA       12
4             American Samoa         AS         ASM       16
..                       ...        ...         ...      ...
242  Wallis and Futuna Islands         WF         WLF      876
243            Western Sahara         EH         ESH      732
244                     Yemen         YE         YEM      887
245                    Zambia         ZM         ZMB      894
246                  Zimbabwe         ZW         ZWE      716
[247 rows x 4 columns]
==========================
=================Process Data Values=============
                            CountryName
CountryNumber
716                            Zimbabwe
894                              Zambia
887                               Yemen
732                      Western Sahara
876           Wallis and Futuna Islands
...                                 ...
16                      American Samoa
12                             Algeria
8                              Albania
248                      Aland Islands
4                          Afghanistan
[247 rows x 1 columns]
CSV to HORUS - Done
```

PRACTICAL-1

B-Image to Horus

```
from skimage import io
import pandas as pd
import matplotlib.pyplot as plt
import numpy as np
sInputFileName='/content/audi.jpg'
InputData = io.imread(sInputFileName, pilmode='RGBA')
plt.imshow(InputData)
InputData.shape
print('Input Data Values')
print('X: ',InputData.shape[0])
print('Y: ', InputData. shape[1])
print('RGBA: ', InputData.shape[2])
ProcessRawData=InputData.flatten()
y=InputData.shape[2] + 2
x=int(ProcessRawData.shape[0]/y)
ProcessData=pd.DataFrame(np.reshape(ProcessRawData, (x, y)))
ProcessRawData
ProcessData=pd.DataFrame(np.reshape(ProcessRawData, (x, y)))
sColumns= [ 'XAxis', 'YAxis', 'Red', 'Green', 'Blue','Aplha']
ProcessData.columns=sColumns
ProcessData
print('Rows: ',ProcessData.shape[0])
print('Columns :',ProcessData.shape[1])
OutputData = ProcessData
OutputData.to_csv('Image to HORUS.csv', index = False)
```

Output:

```
Input Data Values
X:  168
Y:  300
RGBA:  4
Rows:  33600
Columns : 6
```