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from PyQt5.QtGui import *
from PyQt5.QtCore import *
from qgis.core import *
from qgis.utils import *
from osgeo import ogr,osr
import numpy as np

#punkty do wpisania - 4
pkt=np.zeros((4,2),float)
pkt[0,0]=438700;pkt[0,1]=706400
pkt[1,0]=440260;pkt[1,1]=706400
pkt[2,0]=438700;pkt[2,1]=705500
pkt[3,0]=440260;pkt[3,1]=705500
print(pkt)

driver=ogr.GetDriverByName('ESRI shapefile')

workPath = "B:\\Python_QGIS\\aQGIS_Hel_2018\\Jacka\\moje_J\\D3\\"
nazwa_new = "Linie_nowe"
shp_new=workPath + nazwa_new + ".shp"
prj_new=workPath + nazwa_new + ".prj"

#tworzenie pliku prj
coord_sys = osr.SpatialReference() #obiekt klasy SpatialReference
coord_sys.ImportFromEPSG(2180)

coord_sys.MorphToESRI()
f_prj = open(prj_new,'w')
f_prj.write(coord_sys.ExportToWkt())
f_prj.close()

#tworzenie pustej warstwy i pol atrybutow
dataSource=driver.CreateDataSource(shp_new) #type: osgeo.ogr.DataSource
if dataSource is None:
    print("upss")
else:
    print("Data source OK")

vlayer=dataSource.CreateLayer(nazwa_new,coord_sys,geom_type = ogr.wkbLineString) #class
'osgeo.ogr.Layer'
field_def = ogr.FieldDefn("IDD",ogr.OFTInteger)
vlayer.CreateField(field_def)

#tworzenie "zmiennej feature"
feature_def = vlayer.GetLayerDefn() #typ warstwy i jakie sa atrybuty
feature = ogr.Feature(feature_def)

linia = ogr.Geometry(ogr.wkbLineString) #pusta geometria
x = pkt[0,0];y = pkt[0,1]
linia.AddPoint(x,y)
x = pkt[3,0];y = pkt[3,1]
linia.AddPoint(x,y)
feature.SetGeometry(linia)
feature.SetField('IDD',1)
vlayer.CreateFeature(feature)
linia.Empty()
x = pkt[2,0];y = pkt[2,1]
linia.AddPoint(x,y)
x = pkt[1,0];y = pkt[1,1]
linia.AddPoint(x,y)
feature.SetGeometry(linia)
feature.SetField('IDD',2)
vlayer.CreateFeature(feature)
linia.Empty()
x = pkt[0,0];y = pkt[0,1]
linia.AddPoint(x,y)

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x = pkt[2,0];y = pkt[2,1]
linia.AddPoint(x,y)
feature.SetGeometry(linia)
feature.SetField('IDD',3)
vlayer.CreateFeature(feature)
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feature.Destroy()
dataSource = None
print("OK")
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