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import geopandas as gpd
import matplotlib.pyplot as plt
from shapely.geometry import Polygon

polygons = [
    Polygon([(0, 0), (2, 0), (2, 2), (0, 2)]),
    Polygon([(3, 0), (5, 0), (5, 2), (3, 2)]),
    Polygon([(0, 3), (2, 3), (2, 5), (0, 5)]),
    Polygon([(3, 3), (5, 3), (5, 5), (3, 5)]),
]

land_uses = ['Residential', 'Commercial', 'Residential', 'Industrial']

gdf = gpd.GeoDataFrame({'land_use': land_uses, 'geometry': polygons})

print("Available land use categories:", gdf['land_use'].unique())

residential = gdf[gdf['land_use'].str.lower() == 'residential']

if residential.empty:
    print("No residential zones found.")
else:
    # Plot the residential zones
    fig, ax = plt.subplots(figsize=(6, 6))
    residential.plot(ax=ax, color='lightblue', edgecolor='black')
    ax.set_title("Residential Zones in Urban Area", fontsize=15)
    ax.axis('off')
    plt.show()

```