

```
In [4]: import geopandas as gpd
import matplotlib.pyplot as plt

# Cargar el archivo shape
archivo_shape = 'PORTAL.shp'
gdf = gpd.read_file(archivo_shape)

# Mostrar información y primeras filas de las columnas 4 a 10
columnas_interesantes = gdf.iloc[:, 3:10]
print(columnas_interesantes.head())
```

|   | TIPO_VIAL | NOMBRE_VIA | NUMERO | EXTENSION | DGC_VIA      | CODIGO       | ID_POB |
|---|-----------|------------|--------|-----------|--------------|--------------|--------|
| 0 | Carretera | -997       | 30     | None      | No aplicable | No aplicable | None   |
| 1 | Carretera | -997       | 100    | None      | No aplicable | No aplicable | None   |
| 2 | Carretera | -997       | 15     | None      | No aplicable | No aplicable | None   |
| 3 | Carretera | -997       | 102    | None      | No aplicable | No aplicable | None   |
| 4 | Carretera | -997       | 104    | None      | No aplicable | No aplicable | None   |

```
In [18]: gdf.columns
```

```
Out[18]: Index(['ID_PORPK', 'ID_TRAMO', 'ID_VIAL', 'TIPO_VIAL', 'NOMBRE_VIA', 'NUMERO',
        'EXTENSION', 'DGC_VIA', 'CODIGO', 'ID_POB', 'POBLACION', 'COD_POSTAL',
        'TIPO_PORPK', 'TIPOPORPKD', 'SENTIDOPK', 'SENTIDOPKD', 'FUENTE',
        'FUENTED', 'FECHA_ALTA', 'geometry'],
        dtype='object')
```

```
In [11]: # Filtrar por la calle ingresada por el usuario
valor_filtro = input("Ingrese el nombre de la calle para filtrar: ")
gdf_filtrado = gdf[gdf['NOMBRE_VIA'] == valor_filtro]
```

```
In [15]: gdf_filtrado
```

Out[15]:

|              | ID_PORPK     | ID_TRAMO     | ID_VIAL      | TIPO_VIAL | NOMBRE_VIA | NUMERO | EXTENSION | DGC_VIA | CODIGO     | ID_POB | POBLACION | C |
|--------------|--------------|--------------|--------------|-----------|------------|--------|-----------|---------|------------|--------|-----------|---|
| <b>25</b>    | 360460088261 | 360460000028 | 360460000058 | RUA       | NOVAL      | 26     | None      | 43      | 3604600236 | None   | None      |   |
| <b>1573</b>  | 360460088274 | 360460000028 | 360460000058 | RUA       | NOVAL      | 0      | None      | 43      | 3604600236 | None   | None      |   |
| <b>1574</b>  | 360460088275 | 360460000664 | 360460000058 | RUA       | NOVAL      | 7      | None      | 43      | 3604600236 | None   | None      |   |
| <b>21315</b> | 360460080189 | 360460000028 | 360460000058 | RUA       | NOVAL      | 11     | None      | 43      | 3604600236 | None   | None      |   |
| <b>21316</b> | 360460080190 | 360460000028 | 360460000058 | RUA       | NOVAL      | 10     | None      | 43      | 3604600236 | None   | None      |   |
| <b>21317</b> | 360460080191 | 360460000029 | 360460000058 | RUA       | NOVAL      | 9      | None      | 43      | 3604600236 | None   | None      |   |
| <b>22071</b> | 360460088258 | 360460000028 | 360460000058 | RUA       | NOVAL      | 13     | None      | 43      | 3604600236 | None   | None      |   |
| <b>22072</b> | 360460088259 | 360460000032 | 360460000058 | RUA       | NOVAL      | 20     | None      | 43      | 3604600236 | None   | None      |   |
| <b>22073</b> | 360460088262 | 360460000028 | 360460000058 | RUA       | NOVAL      | 26     | None      | 43      | 3604600236 | None   | None      |   |

|              | ID_PORPK     | ID_TRAMO     | ID_VIAL      | TIPO_VIAL | NOMBRE_VIA | NUMERO | EXTENSION | DGC_VIA | CODIGO     | ID_POB | POBLACION | C |
|--------------|--------------|--------------|--------------|-----------|------------|--------|-----------|---------|------------|--------|-----------|---|
| <b>22074</b> | 360460088263 | 360460000158 | 360460000058 | RUA       | NOVAL      | 23     | None      | 43      | 3604600236 | None   | None      |   |
| <b>22075</b> | 360460088264 | 360460000007 | 360460000058 | RUA       | NOVAL      | 18     | None      | 43      | 3604600236 | None   | None      |   |
| <b>22076</b> | 360460088265 | 360460000032 | 360460000058 | RUA       | NOVAL      | 21     | None      | 43      | 3604600236 | None   | None      |   |
| <b>22077</b> | 360460088266 | 360460000029 | 360460000058 | RUA       | NOVAL      | 15     | None      | 43      | 3604600236 | None   | None      |   |
| <b>22078</b> | 360460088268 | 360460000028 | 360460000058 | RUA       | NOVAL      | 12     | None      | 43      | 3604600236 | None   | None      |   |
| <b>22079</b> | 360460088269 | 360460000028 | 360460000058 | RUA       | NOVAL      | 13     | A         | 43      | 3604600236 | None   | None      |   |
| <b>22080</b> | 360460088270 | 360460000158 | 360460000058 | RUA       | NOVAL      | 27     | None      | 43      | 3604600236 | None   | None      |   |
| <b>22081</b> | 360460088271 | 360460000028 | 360460000058 | RUA       | NOVAL      | 12     | None      | 43      | 3604600236 | None   | None      |   |
| <b>22082</b> | 360460088273 | 360460000029 | 360460000058 | RUA       | NOVAL      | 16     | None      | 43      | 3604600236 | None   | None      |   |

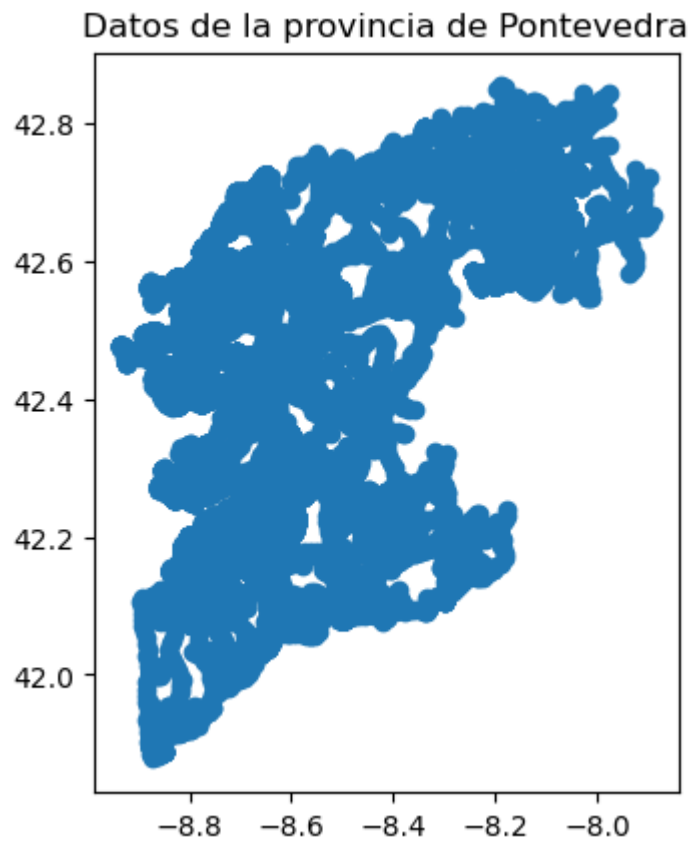
|              | ID_PORPK     | ID_TRAMO     | ID_VIAL      | TIPO_VIAL | NOMBRE_VIA | NUMERO | EXTENSION | DGC_VIA | CODIGO     | ID_POB     | POBLACION | C |
|--------------|--------------|--------------|--------------|-----------|------------|--------|-----------|---------|------------|------------|-----------|---|
| <b>23164</b> | 360460088260 | 360460000030 | 360460000058 | RUA       | NOVAL      | 24     | None      | 43      | 3604600236 | None       | None      |   |
| <b>40160</b> | 360460088272 | 360460000007 | 360460000058 | RUA       | NOVAL      | 17     | 9         | 43      | 3604600236 | 1200035479 | Noval     |   |

```
In [19]: # Mostrar resumen estadístico utilizando la función describe()
resumen_estadistico = gdf.describe()
resumen_estadistico
```

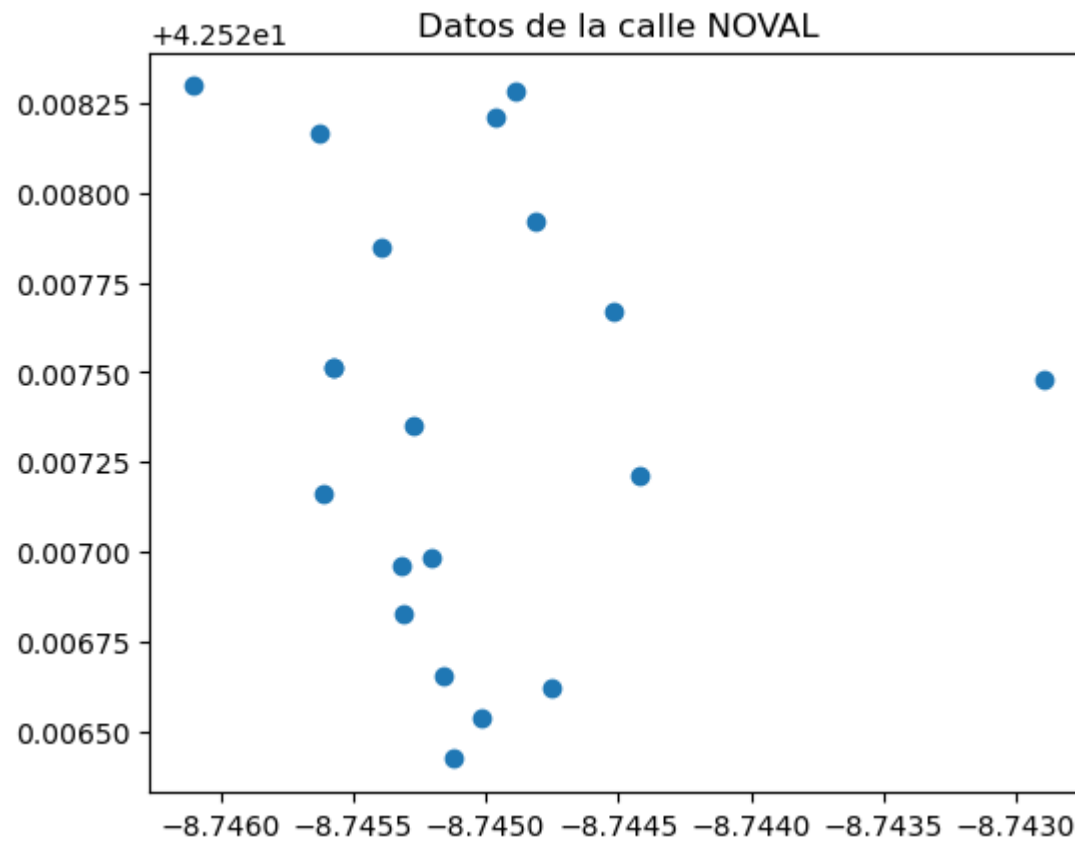
```
Out[19]:
```

|              | ID_PORPK     | ID_TRAMO     | ID_VIAL      | NUMERO        | TIPO_PORPK    | SENTIDOPK     | FUENTE        |
|--------------|--------------|--------------|--------------|---------------|---------------|---------------|---------------|
| <b>count</b> | 1.552900e+05 | 1.552900e+05 | 1.552900e+05 | 155290.000000 | 155290.000000 | 155290.000000 | 155290.000000 |
| <b>mean</b>  | 3.605205e+11 | 3.605206e+11 | 3.718418e+11 | 80.471943     | 1.025604      | -972.376927   | 2.607302      |
| <b>std</b>   | 1.034606e+09 | 1.034596e+09 | 5.243625e+10 | 633.832009    | 0.157950      | 158.069856    | 3.792914      |
| <b>min</b>   | 3.600100e+11 | 3.600100e+11 | 3.600100e+11 | 0.000000      | 1.000000      | -998.000000   | 1.000000      |
| <b>25%</b>   | 3.602400e+11 | 3.602400e+11 | 3.602400e+11 | 7.000000      | 1.000000      | -998.000000   | 2.000000      |
| <b>50%</b>   | 3.604500e+11 | 3.604500e+11 | 3.604500e+11 | 18.000000     | 1.000000      | -998.000000   | 2.000000      |
| <b>75%</b>   | 3.605700e+11 | 3.605700e+11 | 3.605700e+11 | 42.000000     | 1.000000      | -998.000000   | 2.000000      |
| <b>max</b>   | 3.690200e+11 | 3.690200e+11 | 8.120001e+11 | 9999.000000   | 2.000000      | 3.000000      | 26.000000     |

```
In [14]: # Visualizar todos los datos de la provincia
gdf.plot()
plt.title('Datos de la provincia de Pontevedra')
plt.show()
```



```
In [16]: # Visualizar el GeoDataFrame filtrado
gdf_filtrado.plot()
plt.title(f'Datos de la calle {valor_filtro}')
plt.show()
```



```
In [20]: # Convertir el GeoDataFrame filtrado a un DataFrame de Pandas  
df_resultado = gdf_filtrado.drop(columns='geometry').copy()
```

```
In [ ]:
```