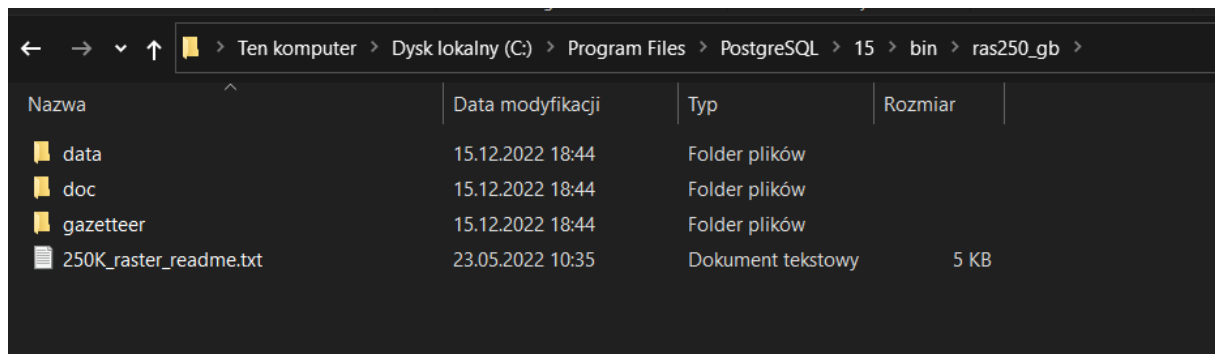
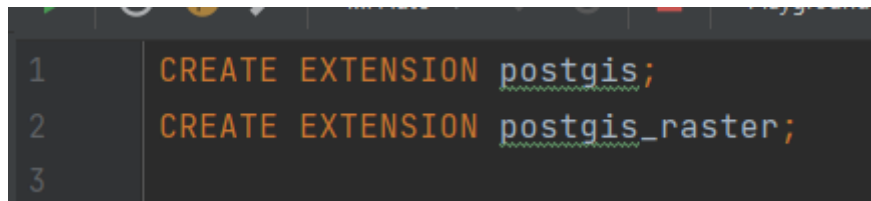


Ex 1

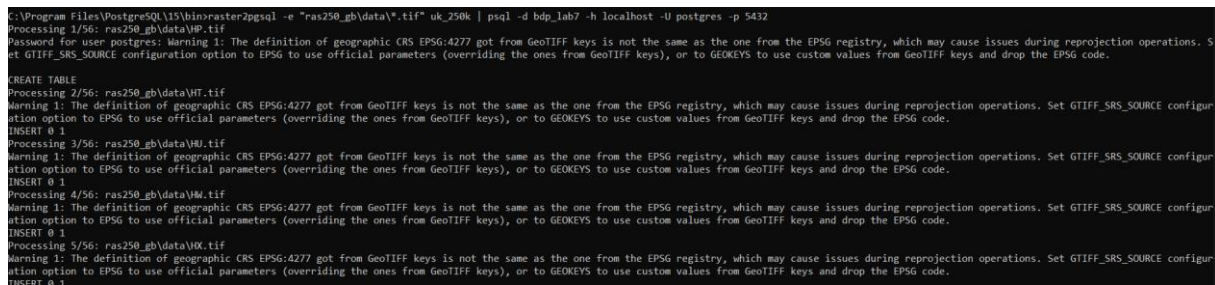


Nazwa	Data modyfikacji	Typ	Rozmiar
data	15.12.2022 18:44	Folder plików	
doc	15.12.2022 18:44	Folder plików	
gazetteer	15.12.2022 18:44	Folder plików	
250K_raster_readme.txt	23.05.2022 10:35	Dokument tekstowy	5 KB

Ex 2



```
1 CREATE EXTENSION postgis;
2 CREATE EXTENSION postgis_raster;
3
```

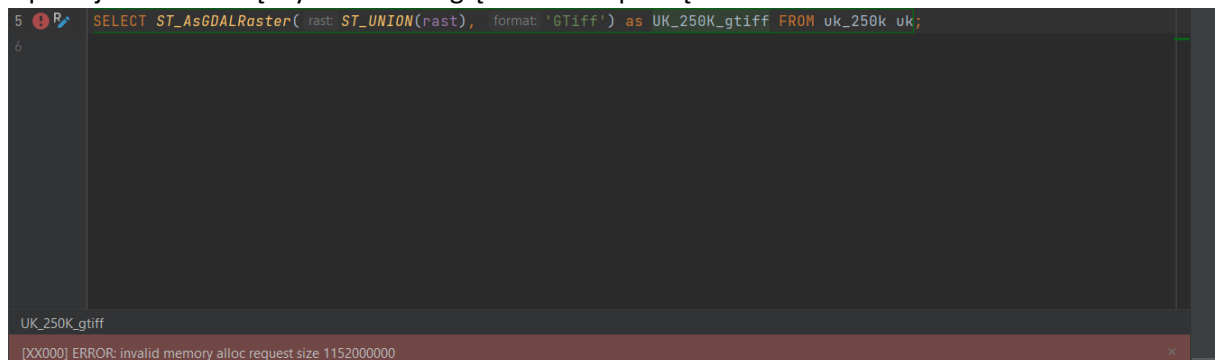


```
C:\Program Files\PostgreSQL\15\bin\raster2pgsql -e "ras250_gb\data\*.tif" uk_250k | psql -d bdg_lab7 -h localhost -U postgres -p 5432
Processing 1/56: ras250_gb\data\VP.tif
Password for user postgres: Warning 1: The definition of geographic CRS EPSG:4277 got from GeoTIFF keys is not the same as the one from the EPSG registry, which may cause issues during reprojection operations. Set GTIFF_SRS_SOURCE configuration option to EPSG to use official parameters (overriding the ones from GeoTIFF keys), or to GEOKEYS to use custom values from GeoTIFF keys and drop the EPSG code.

CREATE TABLE
Processing 2/56: ras250_gb\data\VF.tif
Warning 1: The definition of geographic CRS EPSG:4277 got from GeoTIFF keys is not the same as the one from the EPSG registry, which may cause issues during reprojection operations. Set GTIFF_SRS_SOURCE configuration option to EPSG to use official parameters (overriding the ones from GeoTIFF keys), or to GEOKEYS to use custom values from GeoTIFF keys and drop the EPSG code.
INSERT 0 1
Processing 3/56: ras250_gb\data\VM.tif
Warning 1: The definition of geographic CRS EPSG:4277 got from GeoTIFF keys is not the same as the one from the EPSG registry, which may cause issues during reprojection operations. Set GTIFF_SRS_SOURCE configuration option to EPSG to use official parameters (overriding the ones from GeoTIFF keys), or to GEOKEYS to use custom values from GeoTIFF keys and drop the EPSG code.
INSERT 0 1
Processing 4/56: ras250_gb\data\VM.tif
Warning 1: The definition of geographic CRS EPSG:4277 got from GeoTIFF keys is not the same as the one from the EPSG registry, which may cause issues during reprojection operations. Set GTIFF_SRS_SOURCE configuration option to EPSG to use official parameters (overriding the ones from GeoTIFF keys), or to GEOKEYS to use custom values from GeoTIFF keys and drop the EPSG code.
INSERT 0 1
Processing 5/56: ras250_gb\data\VM.tif
Warning 1: The definition of geographic CRS EPSG:4277 got from GeoTIFF keys is not the same as the one from the EPSG registry, which may cause issues during reprojection operations. Set GTIFF_SRS_SOURCE configuration option to EPSG to use official parameters (overriding the ones from GeoTIFF keys), or to GEOKEYS to use custom values from GeoTIFF keys and drop the EPSG code.
INSERT 0 1
```

Ex 3

Operacji nie udało się wykonać ze względu na brak pamięci:



```
5 SELECT ST_AsGDALRaster( rast: ST_UNION(rast), format: 'GTiff') as UK_250K_gtiff FROM uk_250k;
6
UK_250K_gtiff
[XX000] ERROR: invalid memory alloc request size 1152000000
```

Ex 4



OS_Open_Zoomstack.gpkg	29.11.2022 18:17	Plik GPKG	11 960 796...
------------------------	------------------	-----------	---------------

Ex 5

```
C:\Program Files\PostgreSQL\15\bin>shp2pgsql -e "folder\national_parks.shp" parks | psql -d bdp_lab7 -h localhost -U postgres -p 5432
Field fid is an FIDouble with width 11 and precision 0
Shapefile type: Polygon
Postgis type: MULTIPOLYGON[2]
Password for user postgres:
SET
SET
CREATE TABLE
ALTER TABLE
-----
public.nationalparks.geom SRID:0 TYPE:MULTIPOLYGON DIMS:2
(1 row)

INSERT 0 1
INSERT 0 1
INSERT 0 1
INSERT 0 1
INSERT 0 1
INSERT 0 1
INSERT 0 1
INSERT 0 1
INSERT 0 1
INSERT 0 1
INSERT 0 1
INSERT 0 1
INSERT 0 1
INSERT 0 1
INSERT 0 1
```



Ex 6

```
CREATE TABLE uk_lake_disctrict AS SELECT st_union(st_clip( rast: uk.rast, geom: p.geom)) FROM uk_250k uk
INNER JOIN parks p ON st_intersects( geog1: p.geom, geog2: uk.rast) WHERE p.gid = 1;
```

Ex 7

```
CREATE TABLE out_put AS
SELECT lo_from_bytea(0,
ST_AsGDALRaster( rast: ST_Union(st_clip( rast: uk.rast, geom: u1d.geom)), format: 'GTiff',
options: ARRAY['COMPRESS=DEFLATE',
'PREDICTOR=2', 'PZLEVEL=9']))
) AS lo1d
FROM uk_250k uk INNER JOIN uk_lake_disctrict u1d ON st_intersects( geog1: u1d.geom, geog2: uk.rast)
WHERE u1d.gid = 1;
SELECT lo_export(lo1d, 'C:\Program Files\PostgreSQL\13\bin\parks\parks.tiff') FROM out_put;
SELECT lo_unlink(lo1d)
FROM out_put;
```

Ex 8

 S2B_MSIL1C_20221130T112329_N0400_R037_T30UVF_20221130T120448.SAFE	15.12.2022 18:34	Folder plików
 S2B_MSIL1C_20221130T112329_N0400_R037_T30UVF_20221130T120448.SAFE	15.12.2022 18:33	Folder plików

Ex 9

```
C:\Program Files\PostgreSQL\15\bin>raster2pgsql -e -t 8192x8192 "C:\Program Files\PostgreSQL\15\bin\S2B_
MSIL1C_20221130T112329_N0400_R037_T30UVF_20221130T120448.SAFE\GRANULE\L1C_T30UVF_A029950_20221130T112331
\IMG_DATA\*.jp2" sentinel | psql -d bdp_lab7 -h
```

Ex 10

```
CREATE TABLE ndvi AS
WITH r AS (
SELECT st_clip( rast: s.rast, geom: st_Transform(uld.geom , 32630)) as rast from sentinel s
inner join uk_lake_district uld on st_intersects( geog1: st_Transform(uld.geom , 32630), geog2: s.rast) where uld.gid = 1
)
SELECT
ST_MapAlgebra(
rastbandargset: r.rast, callbackfunc: 1,
pixeltype: r.rast, extenttype: 4,
customextent: '([rast2.val] - [rast1.val]) / ([rast2.val] +
[rast1.val])::float', distancec: '32BF'
) AS rast
FROM r
```

Ex 11

```
CREATE TABLE out_put2 as
SELECT lo_from_bytea(0,
ST_AsGDALRaster( rast: ST_Union(st_union(ndwi.rast)), format: 'GTiff',
options: ARRAY['COMPRESS=DEFLATE',
'PREDICTOR=2', 'PZLEVEL=9'])
) AS loid
FROM ndwi;
SELECT lo_export(loid, 'C:\Program Files\PostgreSQL\15\bin\parks\ndwi.tiff') FROM out_put2;
SELECT lo_unlink(loid)
FROM out_put2;
```