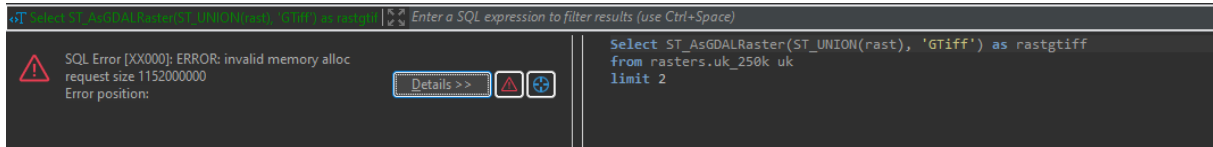--ex2

```
raster2pgsql -e "C:\Users\48697\Downloads\ras250_gb\ras250_gb\data\*.tif" rasters.uk_250k | psql -d postgis_raster -h localhost -U postgres -p 5432
```

--ex3

Wystąpił problem z pamięcią

--ex5

Komenda:

```
ogr2ogr -f PostgreSQL "PG:dbname=postgis_raster" "C:\Users\48697\Downloads\OS_Open_Zoomstack\OS_Open_Zoomstack.gpkg"
```
nie działała więc najpierw zrobiłam shp a później wrzuciłam do pgsql:

```
ogr2ogr -f "ESRI Shapefile" .\arbuzik.shp "C:\Users\48697\Downloads\OS_Open_Zoomstack\OS_Open_Zoomstack.gpkg"
```

```
shp2pgsql -e "C:\Users\48697\Downloads\arbuzik\national_parks.shp" public.uk_lake_district | psql -d postgis_raster -h localhost -U postgres -p 5432
```

później trzeba było jeszcze ustawić odpowiedni srid:

```
select st_srid(geom) from public.uk_lake_district ;

select st_Transform(geom, 4326) from uk_lake_district;

update uk_lake_district set geom =  st_setsrid(geom, 27700);
```

--ex6

```
create table uk_lake_district as
select st_union(st_clip(uk.rast, uld.geom))
from rasters.uk_250k uk
inner join public.uk_lake_district uld on  st_intersects(uld.geom, uk.rast)
where uld.gid = 1;
```

-- ex7

```
CREATE TABLE tmp_out AS
SELECT lo_from_bytea(0,
 ST_AsGDALRaster(ST_Union(st_clip(uk.rast, uld.geom)), 'GTiff', ARRAY['COMPRESS=DEFLATE',
'PREDICTOR=2', 'PZLEVEL=9'])
 ) AS loid
from rasters.uk_250k uk inner join public.uk_lake_district uld on  st_intersects(uld.geom, uk.rast) where uld.gid = 1;
SELECT lo_export(loid, 'C:\Users\48697\Downloads\national_park.tiff') FROM tmp_out;
SELECT lo_unlink(loid)
FROM tmp_out;

drop table tmp_out;
```

Problem z dostępem:

SQL Error [42501]: ERROR: could not create server file "C:\Users\48697\Downloads\national_park.tiff": Permission denied

--ex 9

raster2pgsql -e -t 8192x8192 "C:\Users\48697\Downloads\S2B_MSIL1C_20221130T112329_N0400_R037_T30UVF_20221130T120448\S2B_MSIL1C_20221130T112329_N0400_R037_T30UVF_20221130T120448.SAFE\GRANULE\L1C_T30UVF_A029950_20221130T112331\IMG_DATA*.jp2" rasters.sentinel | psql -d postgis_raster -h localhost -U postgres -p 5432

--ex10and11

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

Kolejny problem wczytaniu tabeli z indeksem NDWI

SQL Error [53200]: Ran out of memory retrieving query results.   Details >>