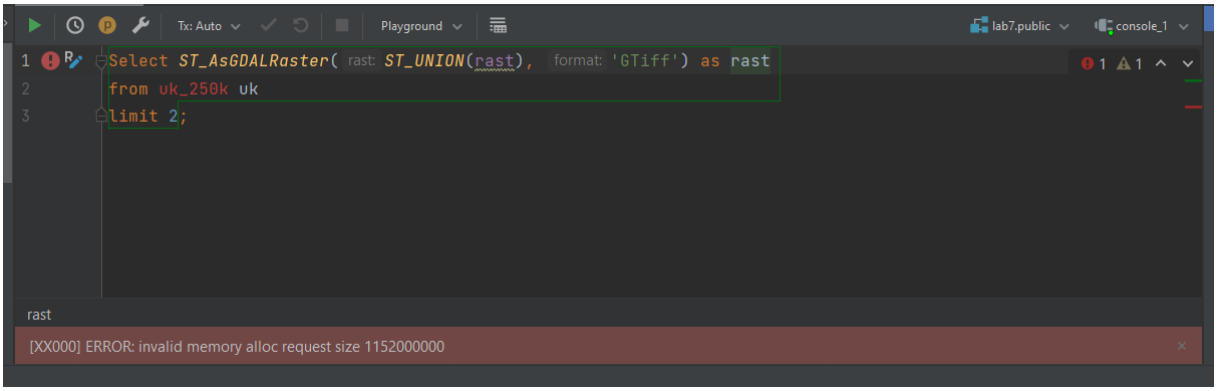
Zad 2

raster2pgsql -e "ras250_gb\data*.tif" uk_250k | psql -d lab7 -h localhost -U postgres -p 5432

Zad 3

Błąd zwrócony po 8 minutach.



Zad 5

```
C:\Program Files\PostgreSQL\13\bin>ogr2ogr -f PostgreSQL "PG:dbname=lab7" "OS_Open_Zoomstack.gpkg"
ERROR 1: Unable to find driver `PostgreSQL'.
```

```
C:\Program Files\PostgreSQL\13\bin>ogr2ogr -f "ESRI Shapefile" \temp.shp "OS_Open_Zoomstack.gpkg"
Warning 1: 2GB file size limit reached for \temp.shp\contours.shp. Going on, but might cause compatibility issues with third p
arty software
Warning 1: One or several characters couldn't be converted correctly from UTF-8 to ISO-8859-1.  This warning will not be emitt
ed anymore.
Warning 6: Normalized/laundered field name: 'name1language' to 'name1langu'
Warning 6: Normalized/laundered field name: 'name2language' to 'name2langu'
Warning 1: One or several characters couldn't be converted correctly from UTF-8 to ISO-8859-1.  This warning will not be emitt
ed anymore.
```

```
C:\Program Files\PostgreSQL\13\bin>shp2pgsql -e "temp.shp\national_parks.shp" nationalParks | psql -d lab7 -h localhost -U pos
tgres -p 5432
Field fid is an FTDouble with width 11 and precision 0
Shapefile type: Polygon
Postgis type: MULTIPOLYGON[2]
Password for user postgres:
SET
SET
CREATE TABLE
ALTER TABLE
                    addgeometrycolumn
--------------------------------------------------------------
 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
```

Zad 6

```
create table uk_lake_disctrict as
    select st_union(st_clip( rast: uk.rast,  geom: np.geom))
    from uk_250k uk
        inner join nationalparks np on st_intersects( geog1: np.geom,  geog2: uk.rast)
    where np.gid = 1;
```

Zad 7

```
create table output_ as
select lo_from_bytea(0,
 ST_AsGDALRaster( rast: ST_Union(st_clip( rast: uk.rast,  geom: uld.geom)),  format: 'GTiff',
 options: array['COMPRESS=DEFLATE',
'PREDICTOR=2', 'PZLEVEL=9'])
 ) as loid
from uk_250k uk inner join uk_lake_disctrict uld on st_intersects( geog1: uld.geom,  geog2: uk.rast)
where uld.gid = 1;
select lo_export(loid, 'C:\Program Files\PostgreSQL\13\bin\temp.shp\nationalparks.tiff') from output_;
select lo_unlink(loid)
from output_;
```

Zad 9

```
C:\Program Files\PostgreSQL\13\bin>raster2pgsql -e -t 8192x8192 "C:\Program Files\PostgreSQL\13\bin\S2B_MSIL1C_20221130T112329
_N0400_R037_T30UVF_20221130T120448.SAFE\GRANULE\L1C_T30UVF_A029950_20221130T112331\IMG_DATA\*.jp2" sentinel | psql -d lab7 -h
localhost -U postgres -p 5432
Password for user postgres: Processing 1/14: C:\Program Files\PostgreSQL\13\bin\S2B_MSIL1C_20221130T112329_N0400_R037_T30UVF_2
0221130T120448.SAFE\GRANULE\L1C_T30UVF_A029950_20221130T112331\IMG_DATA\T30UVF_20221130T112329_B01.jp2

CREATE TABLE
Processing 2/14: C:\Program Files\PostgreSQL\13\bin\S2B_MSIL1C_20221130T112329_N0400_R037_T30UVF_20221130T120448.SAFE\GRANULE\
L1C_T30UVF_A029950_20221130T112331\IMG_DATA\T30UVF_20221130T112329_B02.jp2
INSERT 0 1
INSERT 0 1
INSERT 0 1
INSERT 0 1
WARNING: Raster with different alignment found in the set of rasters being converted to PostGIS raster
Processing 3/14: C:\Program Files\PostgreSQL\13\bin\S2B_MSIL1C_20221130T112329_N0400_R037_T30UVF_20221130T120448.SAFE\GRANULE\
L1C_T30UVF_A029950_20221130T112331\IMG_DATA\T30UVF_20221130T112329_B03.jp2
INSERT 0 1
INSERT 0 1
INSERT 0 1
```

Zad 10

```
create table ndwi 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_disctrict 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',  distancex: '32BF'
)as rast
from r
```

Zad 11

```
create table output_2 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\13\bin\temp.shp\ndwi.tiff') from output_2;
select lo_unlink(loid)
from output_2;
```