Technische Universität Berlin

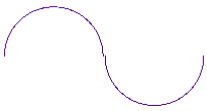
Geodesy and Geoinformation Science

Hands-on-exercises 2015-12-03: Oracle Spatial

Oracle SDO_GEOMETRY – Simple objects

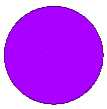
Create following objects using Oracle's spatial datatype **`SDO_GEOMETRY`**:

a) Arc:
Segment1: (10,65, 15,70, 20,65)
Segment2: (20,65, 25,60, 30,65)

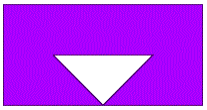


b) Multi arc:
Segment1: (50,65, 50,70, 55,68)
Segment2: (55,68, 60,65, 60,70)

c) Circle:
Center point: (15,150), Start/end point (15,145)



d) Polygon:
Point 0: (10,175)
1: (10,165)
2: (20,165)
3: (15,170)
4: (25,170)
5: (20,165)
6: (30,165)
7: (30,175)
8: (10,175)



e) Polygon with island polygon:

Polygon1:
Point0: (50,168)
1: (50,160)
2: (55,160)
3: (55,168)
4: (50,168)

Polygon 3:
Point0: (52,166)
1: (52,162)
2: (53,162)
3: (53,166)
4: (52,166)

Polygon2: (inner ring)
Point 0: (51,167)
1: (54,167)
2: (54,161)
3: (51,161)
4: (51,162)
5: (52,163)
6: (51,164)
7: (51,165)
8: (51,166)
9: (51,167)

f) Multipolygon:

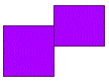
Polygon1:
Point0: (50,105)
1: (55,105)
2: (60,110)
3: (50,110)
4: (50,105)

Polygon2:
Point 0: (62,108)
1: (65,108)
2: (65,112)
3: (62,112)
4: (62,108)

g) Multipolygon:

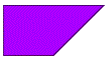
Polygon1:
Point0: (50,125)
1: (55,125)
2: (55,130)
3: (50,130)
4: (50,125)

Polygon2:
Point 0: (55,128)
1: (60,128)
2: (60,132)
3: (55,132)
4: (55,128)



h) Heterogeneous Collection:

Point: (10,100)
Line: (15,100, 25,100)
Polygon (rectangle):
Point0: (10,125)
1: (20,125)
2: (20,130)
3: (10,130)
4: (10,125)
Polygon:
Point0: (10,105)
1: (15,105)
2: (20,110)
3: (10,110)
4: (10,105)



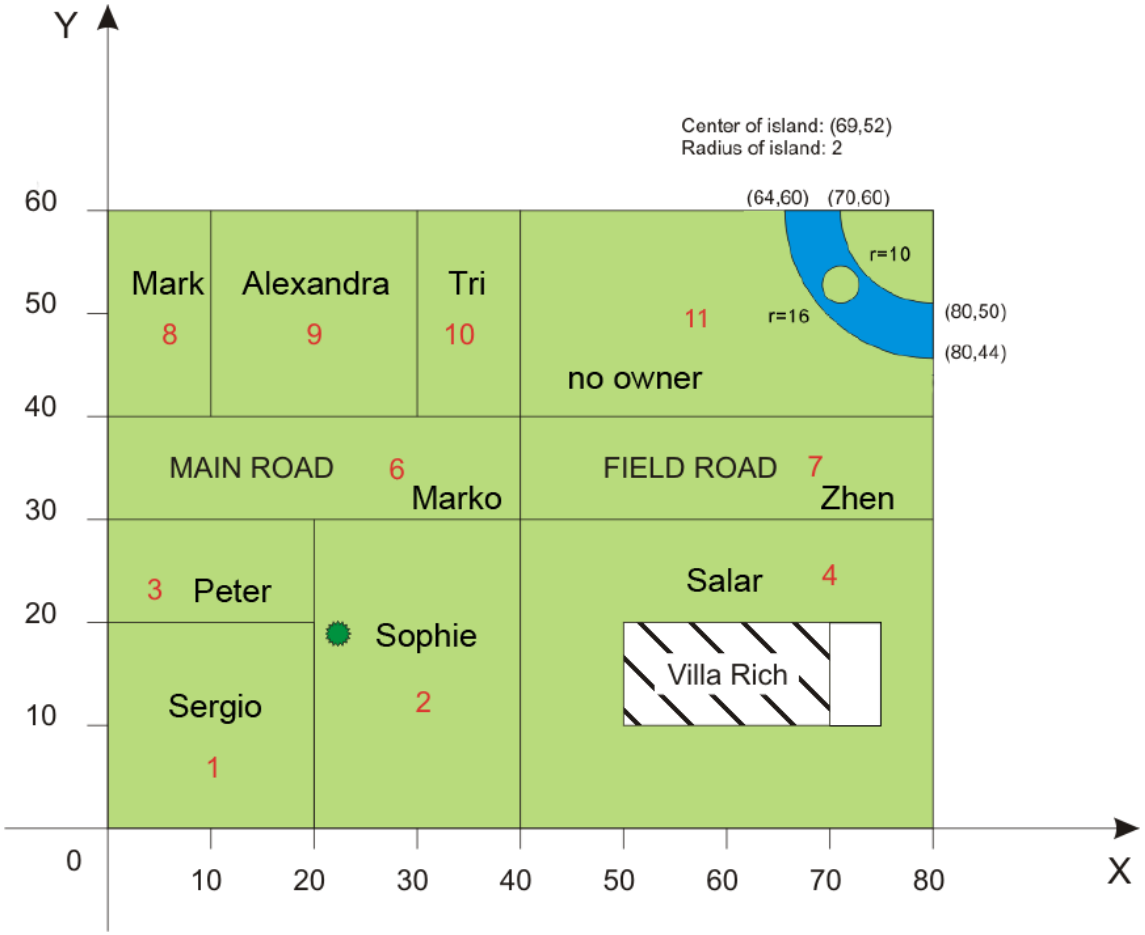
Validate the objects (SDO_GEOM.VALIDATE_GEOMETRY_WITH_CONTEXT) and correct the problems.

Homework

Oracle SDO_GEOMETRY – Test area

Use the coordinates of our small spatial test area introduced in the last exercise and create all tables based on Oracle's datatype SDO_GEOMETRY.

Add the river and its island and plant the tree in Sophie's property.



3. SQL-Queries

a) Calculate the circumference for each property and display the result ordered by the properties' ID.

b) Calculate the area for each property and display the result in descending order complemented by the properties' ID.

c) Calculate the distance from property 3 to all other properties, display the result and the property's ID, ordered by distance.

Deadline: Dec 10, 12 am – please upload your homework to ISIS.