Riga Technical University

Business Informatics

Laboratory work

Spatial database

Advanced Data Technologies

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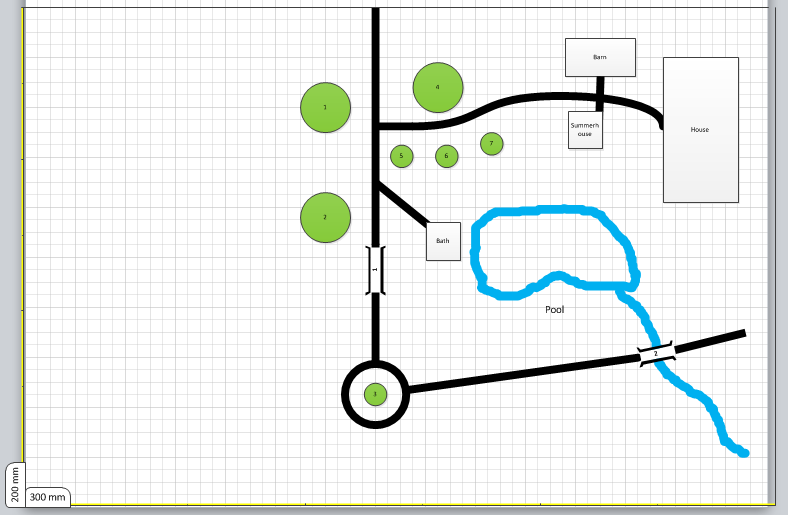
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# Map consist of

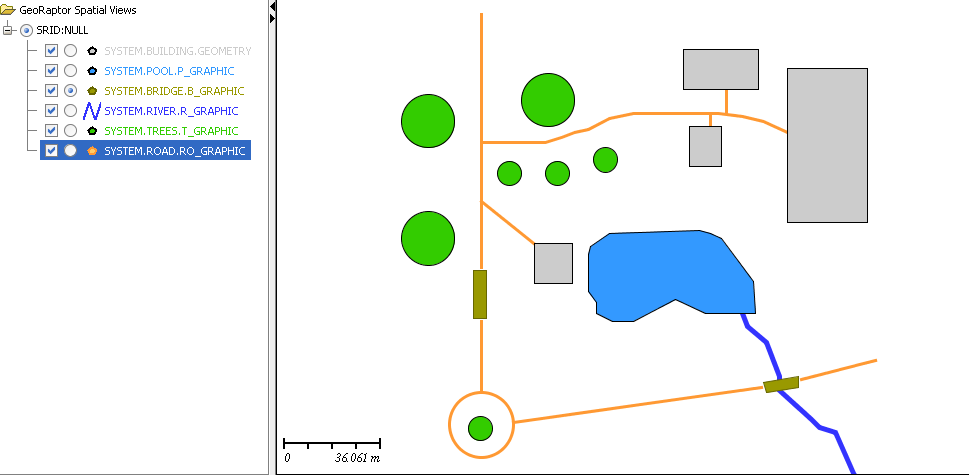
1. River - 1
2. Pool - 1
3. Buildings - 4
4. Trees - 7
5. Bridges – 2
6. Road (1 roundabout)



# Database structure

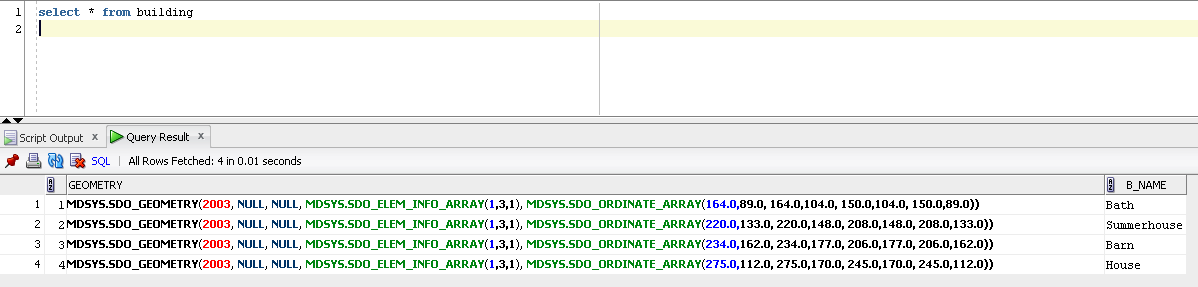


# Screenshots from database graphical output

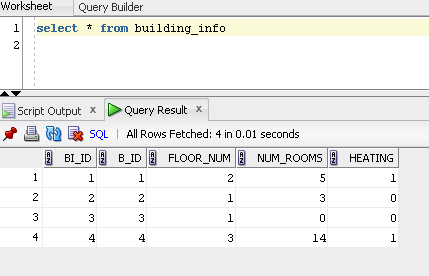


# Data

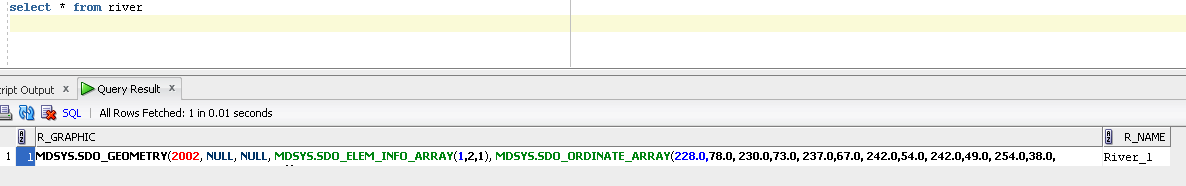
## Building



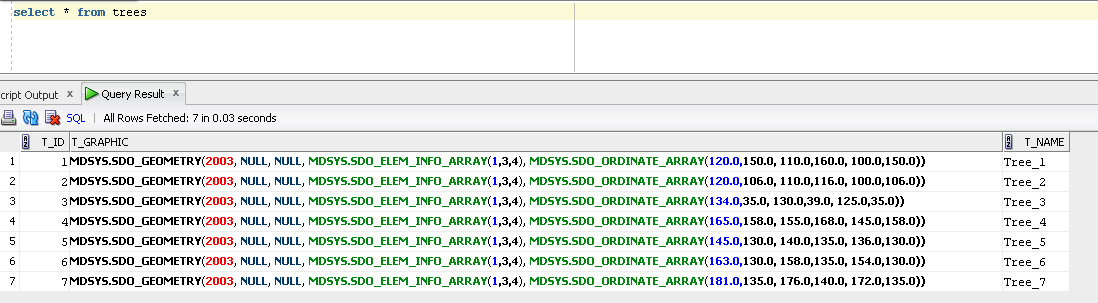
Building\_info

****

River



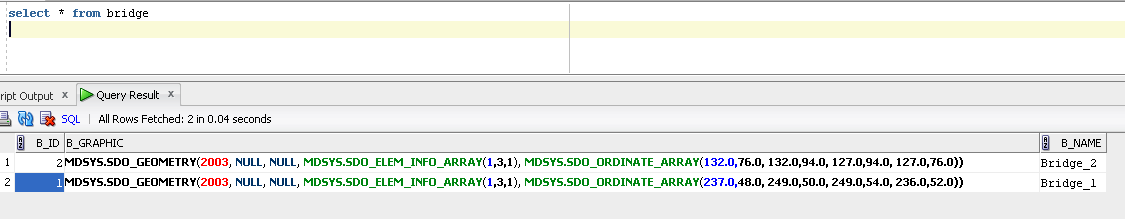
## Trees



## Road

## 

## Bridges



## 

# Select the objects which are in defined rectangle

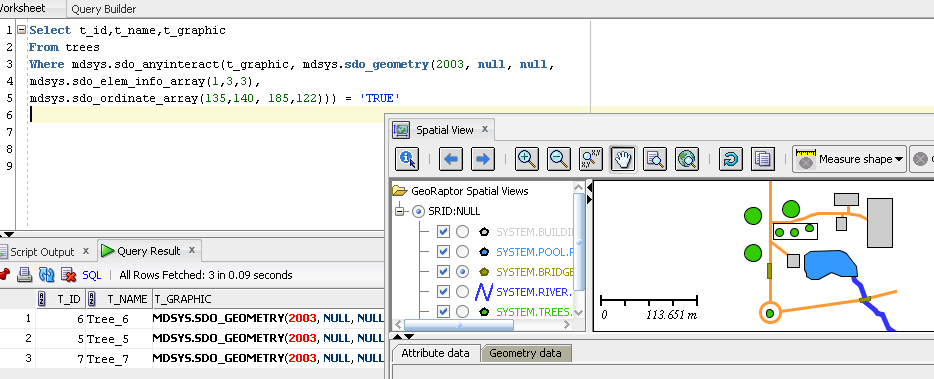
*Select t\_id,t\_graphic,t\_name*

*From trees*

*Where mdsys.sdo\_anyinteract(t\_graphic, mdsys.sdo\_geometry(2003, null, null,*

*mdsys.sdo\_elem\_info\_array(1,3,3),*

*mdsys.sdo\_ordinate\_array(135,140, 185,122))) = 'TRUE'*



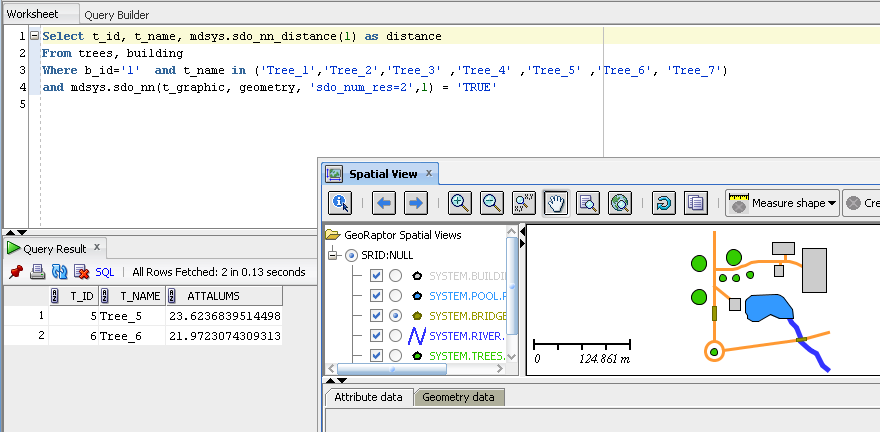
# Find the 2 nearest trees from Bath and show the distance.

*Select t\_id, t\_name, mdsys.sdo\_nn\_distance(1) as distance*

*From trees, building*

*Where b\_id='1' and t\_name in ('Tree\_1','Tree\_2','Tree\_3' ,'Tree\_4' ,'Tree\_5' ,'Tree\_6', 'Tree\_7')*

*and mdsys.sdo\_nn(t\_graphic, geometry, 'sdo\_num\_res=2',1) = 'TRUE'*



# Find the nearest building from swimming pool and show the distance and show room info.

*Select p\_id, p\_name,b.b\_name, bi.floor\_num, bi.num\_rooms,mdsys.sdo\_nn\_distance(1) as distance*

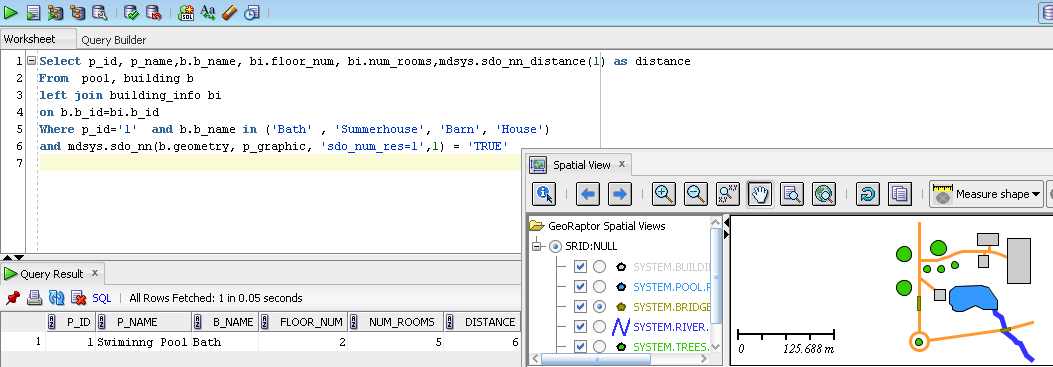
*From pool, building b*

*left join building\_info bi*

*on b.b\_id=bi.b\_id*

*Where p\_id='1' and b.b\_name in ('Bath' , 'Summerhouse', 'Barn', 'House')*

*and mdsys.sdo\_nn(b.geometry, p\_graphic, 'sdo\_num\_res=1',1) = 'TRUE'*



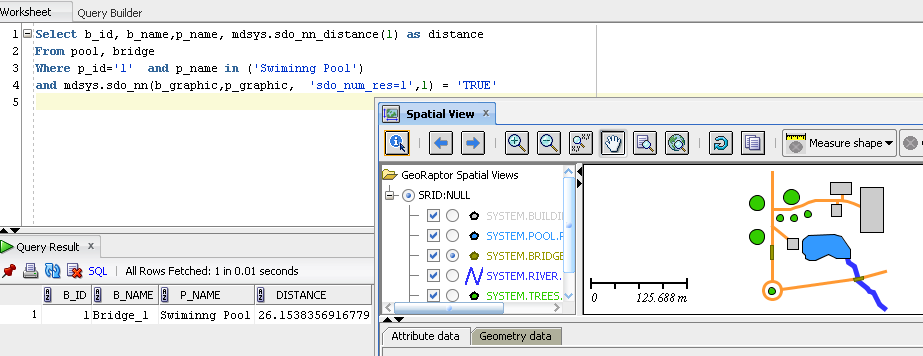
# Find the nearest bridge from swimming pool and show the distance.

*Select b\_id, b\_name,p\_name, mdsys.sdo\_nn\_distance(1) as distance*

*From pool, bridge*

*Where p\_id='1' and p\_name in ('Swiminng Pool')*

*and mdsys.sdo\_nn(b\_graphic,p\_graphic, 'sdo\_num\_res=1',1) = 'TRUE'*



**Query to determine all the object are located in or close to 20 units away from the bath.**

*select p\_name*

*from building, pool*

*where b\_id=1 and mdsys.sdo\_within\_distance(geometry, p\_graphic, ' distance=20' )= 'True'*

