{ PostGIS }

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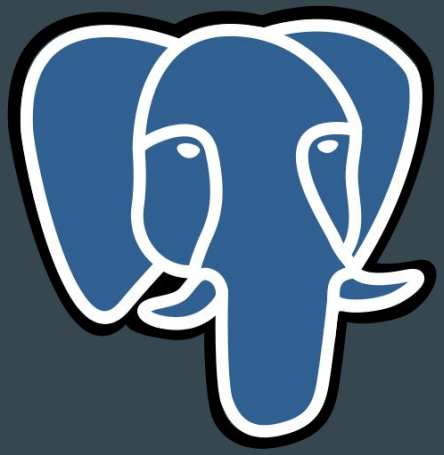
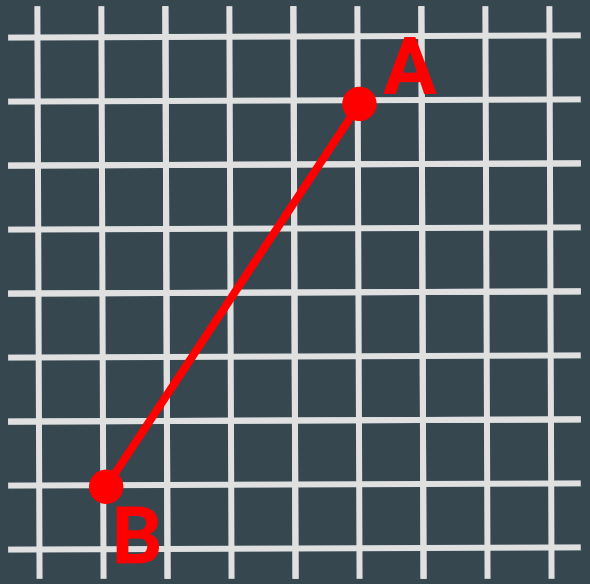


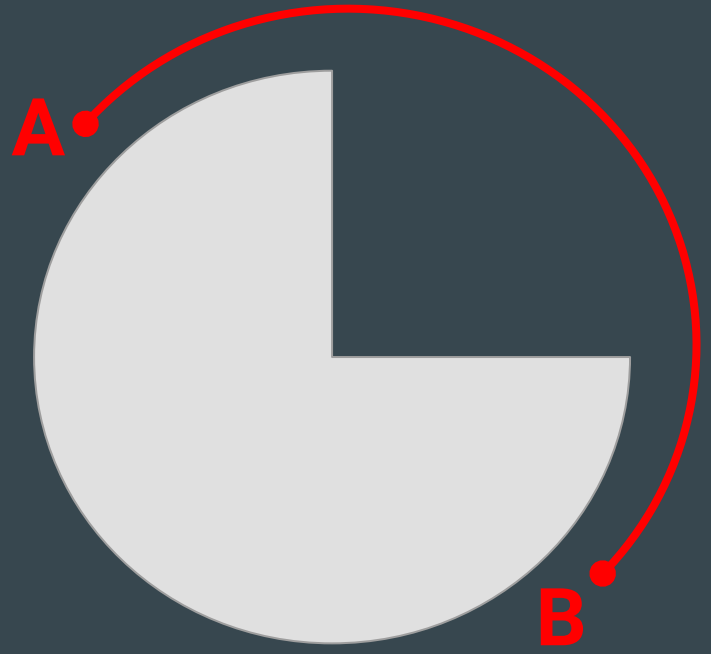
PostgreSQL

PostGIS

Geometry
(cartesian measurements)



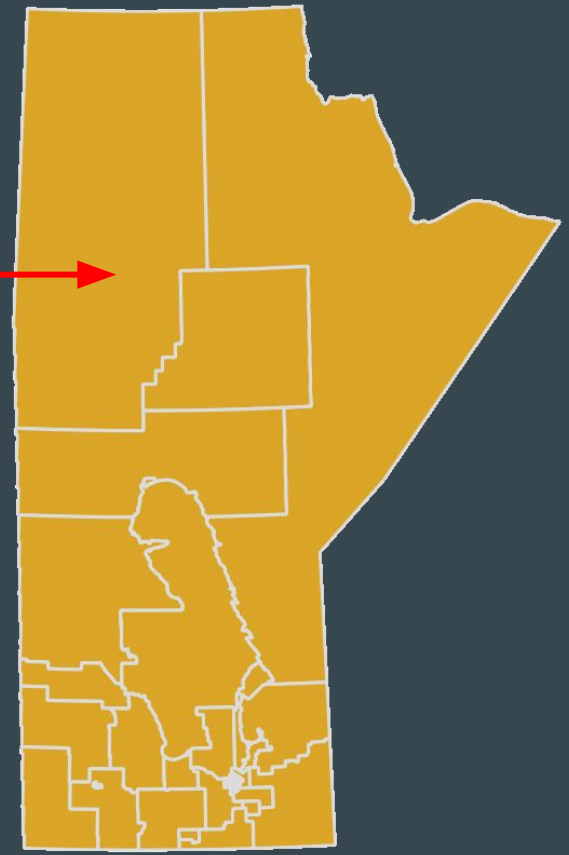
Geography
(geodetic measurements)



Analyze spatial data using SQL-esque syntax

```
SELECT *
FROM ed2019;
```

id	type	year	ed_num	ed_name	geom
14	Rural	2008	112	Emerson	0106000020226900000100000...
15	Rural	2008	130	Morris	0106000020226900000100000...
17	Rural	2008	129	Morden-Winkler	0106000020226900000100000...
8	Rural	2008	152	The Pas	0106000020226900000100000...
9	Rural	2008	150	Swan River	0106000020226900000100000...
10	Rural	2008	119	Interlake	0106000020226900000100000...
11	Rural	2008	101	Agassiz	0106000020226900000100000...
12	Rural	2008	109	Dauphin	0106000020226900000100000...
16	Rural	2008	132	Portage la Prairie	0106000020226900000100000...
18	Rural	2008	127	Midland	0106000020226900000100000...
19	Rural	2008	134	Riding Mountain	0106000020226900000100000...
20	Rural	2008	102	Arthur-Virden	0106000020226900000100000...



ST_Area(geom);
ST_Length(geom);
ST_Intersection(geom1, geom2)
ST_Difference(geom1, geom2)
ST_Centroid(geom)
ST_Simplify(geom, tolerance)

.....

Apply a 200m buffer to a river.

```
SELECT
    uid,
    name,
    geom
FROM rivers;
```

```
SELECT
    uid,
    name,
    ST_Buffer(geom, 200) as geom
FROM rivers;
```

```
SELECT
    uid,
    name,
    ST_Buffer(
        ST_Transform(geom, 26914), 200
                    ) as geom
FROM rivers;
```

```
SELECT
    uid,
    name,
    ST_Buffer(
        ST_Transform(geom, 26914), 200
                    ) as geom
FROM river
WHERE name = ‘Red River’;
```