

## Walking in Medford Lakes

(this assignment is completed entirely in the SQLPlus interface of Oracle)

- Using the diagram of Medford Lakes

(<http://jackmyers.info/db/exercises/grad/medfordlakes.pdf>),

create and populate the following tables in Oracle

- POI** (point of interest): store a primary key, the name of the POI, and the X, Y location

- PJ Whelihans
- Medford Lakes Country Clubhouse
- the Zinc Café
- YMCA Camp Ockanickon
- 13 Big Chief Trail  
(at the intersection of Big Chief Trail and Big Look Trail)
- Chicagami Trailhead (80, 21)
- Upper Aetna Lake Dam (90, 31)

- Lake**: store a primary key, the name of the lake, and the lake's geometry

- Lower Aetna Lake
- Upper Aetna Lake (don't forget to account for the private island in the lake)

- Person**: store a primary key, then name of the person and the person's X, Y location. You can make as many people as you like.

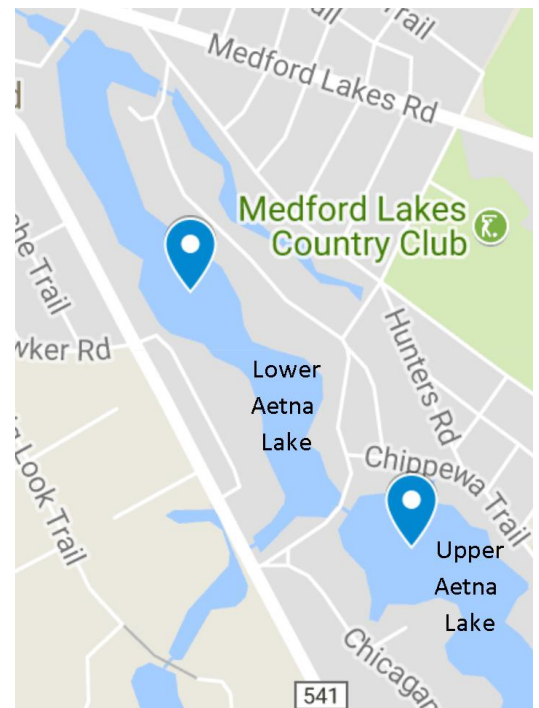
- Create a view, "people\_in\_lakes", that shows whether all the persons are in any of the lakes. For example, see query to the right →

- Create a database function whose input is a person id, and whose output is whether or not that person is in a lake.

- Create a person for you. Your mission is to start walking/swimming from one POI to another in a straight line by calling a procedure named `move` with inputs of a person id, and two poi\_ids. You will place your person at the starting location then "step through" X and Y coordinates on your journey until the person is at the destination. However, you cannot move more than one unit in either the X or Y direction. (You're not Wonder Woman or Superman.) Only integer coordinates allowed. If your journey takes you into a lake, show in which lake you are swimming.

- What to turn in?

- A copy of all your code that creates and populates tables, views and indexes
- In the same file, a copy of the code that creates your procedure and your function.
- Screen shots of your journeys (please call the procedure five times for five journeys:
  - a. One from the Upper Aetna Lake Dam to the Chicagami Trailhead (as shown above);
  - b. One essentially heading north;
  - c. One essentially heading south;
  - d. One essentially heading east;
  - e. One essentially heading west.



```
SQL> select * from people_in_lakes;
```

PERSON_ID	PERSON_NAME	LAKE_NAME	IN_LAKE
1	Amber	Lower Aetna Lake	TRUE
1	Amber	Upper Aetna Lake	FALSE
2	Bill	Lower Aetna Lake	FALSE
2	Bill	Upper Aetna Lake	FALSE
3	Cherise	Lower Aetna Lake	FALSE
3	Cherise	Upper Aetna Lake	TRUE

```
x:90 y:31 Upper Aetna Lake Dam
x:89 y:30 walking on solid ground
x:88 y:29 swimming in Upper Aetna Lake
x:87 y:28 swimming in Upper Aetna Lake
x:86 y:27 walking on solid ground
x:85 y:26 swimming in Upper Aetna Lake
x:84 y:25 swimming in Upper Aetna Lake
x:83 y:24 swimming in Upper Aetna Lake
x:82 y:23 swimming in Upper Aetna Lake
x:81 y:22 walking on solid ground
x:80 y:21 walking on solid ground
Arrived at Chicagami Trailhead

Call completed.
```