

Assignment description: Create a table with routes and distances between 3-4 cities of USA. Choose one city and write a query to display all the routes from the city and count the distances.

Solution:

Let's create a table with routes:

```
CREATE TABLE route (  
node VARCHAR2 ( 20 ),  
parent VARCHAR2 ( 20 ),  
distance NUMBER ( 5 )  
);  
INSERT INTO route VALUES ( 'Los Angeles', 'New York', 2790 );  
INSERT INTO route VALUES ( 'Washington', 'New York', 227 );  
INSERT INTO route VALUES ( 'Los Angeles', 'Washington', 2668 );  
INSERT INTO route VALUES ( 'Chicago', 'Los Angeles', 2015 );  
COMMIT;
```

This is the query for routes from New York (with distance counting):

```
WITH stepbystep ( node, way, distance ) AS (  
SELECT node, parent || '-' || node, distance  
FROM route  
WHERE parent = 'New York'  
UNION ALL  
SELECT r.node, s.way || '-' || r.node, r.distance + s.distance FROM route r  
INNER JOIN stepbystep s ON ( s.node = r.parent )  
) SELECT way, distance FROM stepbystep
```

WAY

DISTANCE

New York-Los Angeles

2790

New York-Washington

227

New York-Washington-Los Angeles

2890

New York-Los Angeles-Chicago

4805

New York-Washington-Los Angeles-Chicago

4910