PRACTICAL 7 : Traveling Salesman Problem

```
travel.pl                    ×    Travelling salesman .pl        ●    test.pl                          +

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 /* Description:
For example, there are four cities(Kansas City,Houston,Gordon and Tampa).

-> The distance between Kansas City and Houston is 120.
-> The distance between Kansas City and Tampa is 80.
-> The distance between Houston and Gordon is 100.

*/

% Production Rules:-
 route(Town1,Town2,Distance), route(Town1,Town2,Distance),
 route(Town1,Town2,Distance), road(Town1,X,Dist1),
 route(X,Town2,Dist2),
 Distance=Dist1+Dist2,

% Domains

 town = symbol
 distance = integer

% Predicates

 nondeterm road(town,town,distance)
 nondeterm route(town,town,distance)
```

```
% Clauses

 road("tampa","houston",200).
 road("gordon","tampa",300).
 road("houston","gordon",100).
 road("houston","kansas_city",120).
 road("gordon","kansas_city",130).

 route(Town1,Town2,Distance):-
        road(Town1,Town2,Distance).

 route(Town1,Town2,Distance):-
        road(Town1,X,Dist1),
        route(X,Town2,Dist2),
        Distance=Dist1+Dist2,
        !.
```

```
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?-
% c:/Users/HP/OneDrive/Desktop/p2/Travelling salesman .pl compiled 0.00 sec, 0 clauses
?- % Goal
 route("tampa", "kansas_city", X),
 write("Distance from Tampa to Kansas City is ",X),nl.

Distance from Tampa to Kansas City is 320
X=320
1 Solution
```