Aim: 6

Write a program to solve Traveling salesman problems

Solution :

```
/* 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)  road(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).
```

shyam-sudheer1602

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

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

Output:

```
% 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
```

shyam-sudheer1602