

General instructions:

1. Students have to write the pseudo code first in their notebooks and implement it after that. Students can use either C / C++.
2. The point of contact (Member 1 as submitted in Gform) from the group has to submit all the programs. You may ask the TA, if you forgot the point of contact (Member 1).
3. Submit all the programs as a single Zip file in Google Class Room (GCR).
4. Pseudo code, Demonstration and Viva will be evaluated by the TA for 10 marks each and a total of 30. Pseudo code and Viva will be evaluated in the lab itself.
5. If the students wish to submit the programs later, then they can do it with in 2 days (i.e., if the lab is on Tuesday, then programs need to be submitted by Thursday 11:59 PM by point of contact (Member 1).). This evaluation will be considered for Demonstration 10 marks.

Algorithms

Q1) **Backtracking:** By taking the N as input, solve and implement the N-Queens problem by using backtracking algorithm.

Q2) **Traveling Salesman Problem (TSP):** Solve the given 3 instances of TSP (eil51, eil76, eil101) by using any paradigm of algorithms. The solutions need not be optimal. Print the solution (i.e., sequence of visiting all the vertices) at the end.

Every instance contains

1st line - N (the number of vertices)

followed by NXN distance matrix

Note: Students who have finished the above programs in less time can explore implementing other problems using backtracking algorithms.