# Assignment 3
# Design and Analysis of Algorithms

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**Submission Deadline: 27/03/2022**

1. Write a C program that takes a linked-list as input and reports if there exists a loop in the linked-list.

2. Consider a $4 \times 4$ checker board. Write a C program to report all possible configurations of the board in which you can place 4 queens in the board such that no two queens are in the same row, column or diagonal.

3. Write a C program that takes an integer $n$ and $n$ many points in $2D$ plane as input and reports the closest pair of points and the distance between the two points.

4. Write a C program that takes a weighted graph as input and returns a minimum spanning tree following an efficient implementation of the Kruskal's algorithm.