

CT-04

Q1. Let, $(2,4,1,2)$ is an internal node in the search space of N Queens problem. [The array is named `column` (dimension 1 to N) and `column[r]` denotes the position/column of r^{th} queen].

i) How many leaf nodes can be generated from this node without any branch and bound?

ii) How many solutions can be achieved from this node?

Q2. Given 7 integers in an array named **pool**. Write a program (iterative using own stack or recursive) to select and print the prime numbers while moving forward. Then while backtracking, find the maximum among the prime numbers.

Pool = {10, 2, 5, 17, 12, 13, 4}

Sample output:

Forward: 2, 5, 17, 13

Backward: 17

$(2, 4, 1, 2)$ $(2, 4, 3, 1)$

