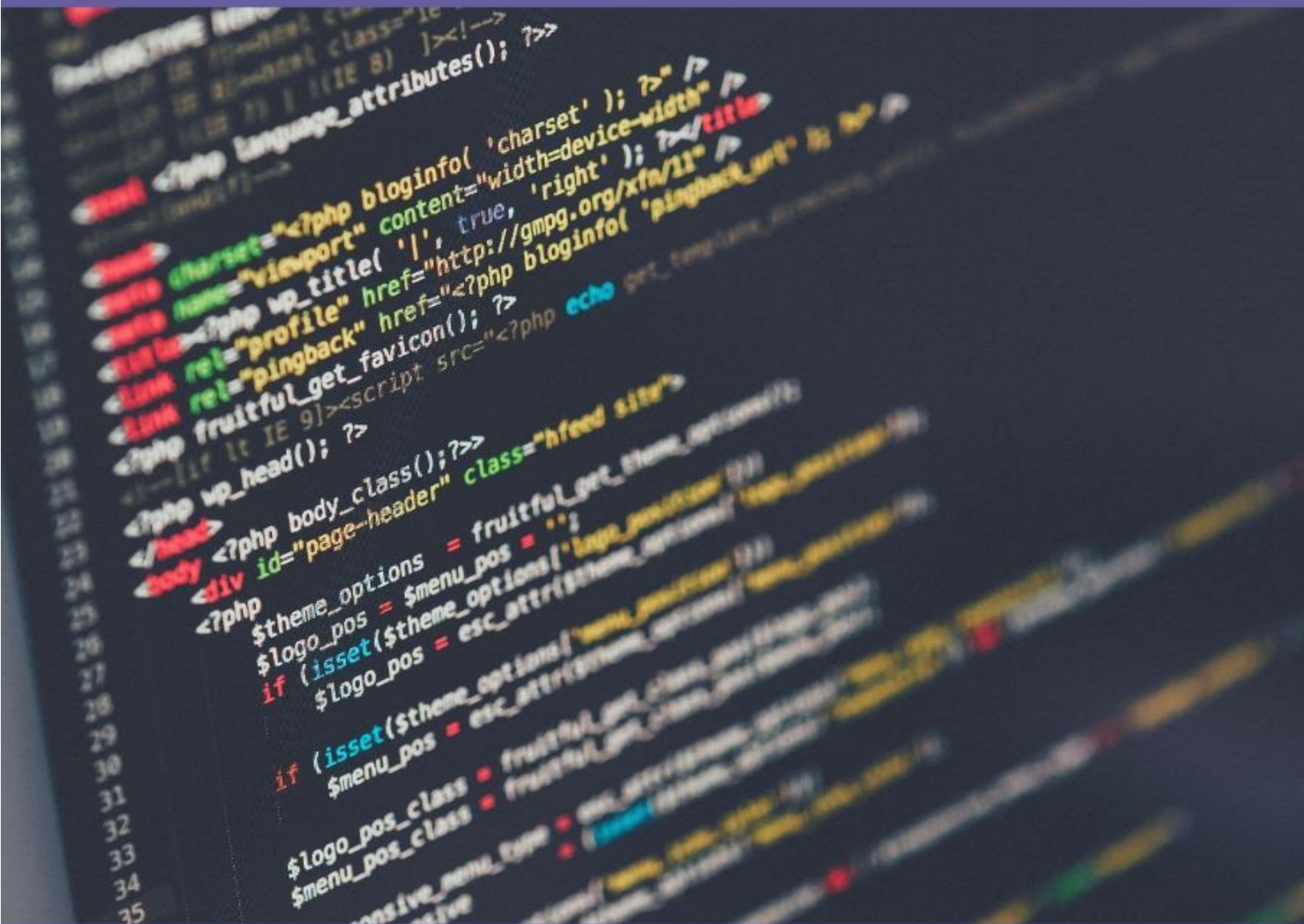




# C.O.D.E



INTERNSHIP AND PLACEMENT PREPARATION MATERIAL

# BACK TRACKING

## What is Back-Tracking?

**Backtracking** is a technique based on algorithms to solve problems. It uses recursive calling to find the solution by building a solution step by step increasing values with time. It removes the solutions that don't give rise to the solution of the problem based on the constraints given to solve the problem.

## To have a basic understanding of backtracking

[https://www.youtube.com/watch?v=gBC\\_Fd8EE8A](https://www.youtube.com/watch?v=gBC_Fd8EE8A)

<https://www.youtube.com/watch?v=Zq4upTEaQyM>

## Day 1:

### Easy:

1. <https://practice.geeksforgeeks.org/problems/permutation-with-spaces/0>

### Medium:

1. <https://practice.geeksforgeeks.org/problems/rat-in-a-maze-problem/1>
2. <https://practice.geeksforgeeks.org/problems/coins-and-game/0>
3. <https://practice.geeksforgeeks.org/problems/m-coloring-problem-1587115620/1>
4. <https://practice.geeksforgeeks.org/problems/knight-walk/0>
5. <https://practice.geeksforgeeks.org/problems/subsets-1587115621/1>

## Day 2:

### Medium:

1. <https://leetcode.com/problems/maximum-length-of-a-concatenated-string-with-unique-characters/>
2. <https://practice.geeksforgeeks.org/problems/largest-number-in-k-swaps/0>
3. <https://leetcode.com/problems/split-array-into-fibonacci-sequence/>

### Hard:

1. N-Queens:  
[https://www.youtube.com/watch?v=wGbuCyNpxIg&t=349s&ab\\_channel=BackToBackSWE](https://www.youtube.com/watch?v=wGbuCyNpxIg&t=349s&ab_channel=BackToBackSWE)  
<https://practice.geeksforgeeks.org/problems/n-queen-problem0315/1>
2. <https://practice.geeksforgeeks.org/problems/print-all-lcs-sequences/0>

## Day 3:

### Medium:

1. <https://practice.geeksforgeeks.org/problems/combination-sum-part-2/0>
2. <https://leetcode.com/problems/generate-parentheses/>
3. <https://leetcode.com/problems/path-with-maximum-gold/>
4. <https://practice.geeksforgeeks.org/problems/word-boggle/0>
5. <https://practice.geeksforgeeks.org/problems/number-of-paths-in-a-matrix-with-k-coins2728/1>

### Hard:

1. Sudoku:  
[https://www.youtube.com/watch?v=mTDHPLGHg0w&ab\\_channel=CodingSimplified](https://www.youtube.com/watch?v=mTDHPLGHg0w&ab_channel=CodingSimplified)  
<https://practice.geeksforgeeks.org/problems/solve-the-sudoku/0>

**Additional Questions:**

<https://practice.geeksforgeeks.org/problems/partition-array-to-k-subsets/1>

<https://practice.geeksforgeeks.org/problems/path-of-greater-than-equal-to-k-length/0>

<https://practice.geeksforgeeks.org/problems/hamiltonian-path/0>

<https://practice.geeksforgeeks.org/problems/generate-ip-addresses/1>

<https://practice.geeksforgeeks.org/problems/rat-maze-with-multiple-jumps/0>

