Algorithms and Problem-Solving Lab (15B17CI471)
EVEN 2023

Evaluation 2
Mar 13, 2023 Mon 3-5 **Max Time: 50 Mins**
Max Marks : 10

EVEN Machine

Given a number, n, and an exceptional digit, k. You are asked for the count of all integers (from 0) with unique digits less than 10^n, except using the digit k. Write a code using backtracking such that it counts all the numbers with the given conditions.

Input

n = 2 k =9

Output

0, 1, 2 3, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 16, 17, 18, 20, 21….., 84, 85, 86, 87

Total count = 73

ODD Machine

A player, P, asks his opponent to give him a word without seeing a given matrix of n*m size of alphabets. If the word can be formed by a series of adjacent elements then the opponent wins else P wins. Every element of the matrix can be used once and the elements should be **vertically, horizontally or diagonally** adjacent. Given a matrix of n*m size of alphabets and a word as input write code using backtracking for a game of matrix filled with alphabets using given conditions to print who is the winner.

Input

n=4 m= 4
a a c d
s d f z
s e r t
q w d f

word = aacf **Output** Yes
word = aaz **Output** No