

## Introduction

Digit DP or Digit Dynamic Programming is just a dynamic programming approach involving **digits**. Basically, digit dp involves breaking down the given problem into subproblems based upon a property that the digits of a number must follow.

## Problems involving digit dp

The problems that use the concept of digit dp usually involve finding the count of numbers till some number(say X) or finding the count of numbers in a range(say L to R), based upon a property that the digits of the number must follow.

This property can be:

- The sum of digits of the number must be equal to some value.
- Number having the even positions of digits occupied by odd digits(1, 3, 5, 7, 9)
- Number having digit d exactly k times
- And many more...

We will be going through a simple problem to clearly understand the concept of Digit DP.