

# Problem 967: Numbers With Same Consecutive Differences

## Problem Information

**Difficulty:** Medium

**Acceptance Rate:** 58.99%

**Paid Only:** No

**Tags:** Backtracking, Breadth-First Search

## Problem Description

Given two integers  $n$  and  $k$ , return \_an array of all the integers of length\_`n` \_where the difference between every two consecutive digits is\_`k` . You may return the answer in \*\*any order\*\*.

Note that the integers should not have leading zeros. Integers as `02` and `043` are not allowed.

**Example 1:**

**Input:**  $n = 3$ ,  $k = 7$  **Output:** [181,292,707,818,929] **Explanation:** Note that 070 is not a valid number, because it has leading zeroes.

**Example 2:**

**Input:**  $n = 2$ ,  $k = 1$  **Output:** [10,12,21,23,32,34,43,45,54,56,65,67,76,78,87,89,98]

**Constraints:**

\* `2 <= n <= 9` \* `0 <= k <= 9`

## Code Snippets

**C++:**

```
class Solution {  
public:  
vector<int> numsSameConsecDiff(int n, int k) {  
  
}  
};
```

**Java:**

```
class Solution {  
public int[] numsSameConsecDiff(int n, int k) {  
  
}  
}
```

**Python3:**

```
class Solution:  
def numsSameConsecDiff(self, n: int, k: int) -> List[int]:
```