Problem 1012: Numbers With Repeated Digits

Problem Information

Difficulty: Hard
Acceptance Rate: 0.00%
Paid Only: No

Problem Description

Given an integer

n

, return

the number of positive integers in the range

[1, n]

that have

at least one

repeated digit

.

Example 1:

Input:

n = 20

Output:

1

Explanation:

The only positive number (<= 20) with at least 1 repeated digit is 11.

Example 2:

Input:

n = 100

Output:

10

Explanation:

The positive numbers (<= 100) with atleast 1 repeated digit are 11, 22, 33, 44, 55, 66, 77, 88, 99, and 100.

Example 3:

Input:

n = 1000

Output:

262

Constraints:

1 <= n <= 10

9

Code Snippets

C++:

```
class Solution {
public:
int numDupDigitsAtMostN(int n) {

}
};
```

Java:

```
class Solution {
public int numDupDigitsAtMostN(int n) {

}
}
```

Python3:

```
class Solution:
def numDupDigitsAtMostN(self, n: int) -> int:
```

Python:

```
class Solution(object):
def numDupDigitsAtMostN(self, n):
"""
:type n: int
:rtype: int
"""
```

JavaScript:

```
/**
* @param {number} n
* @return {number}
*/
var numDupDigitsAtMostN = function(n) {

};
```

TypeScript:

```
function numDupDigitsAtMostN(n: number): number {

};
```

C#:

```
public class Solution {
public int NumDupDigitsAtMostN(int n) {

}
}
```

C:

```
int numDupDigitsAtMostN(int n) {

}
```

Go:

```
func numDupDigitsAtMostN(n int) int {

}
```

Kotlin:

```
class Solution {
fun numDupDigitsAtMostN(n: Int): Int {

}
}
```

Swift:

```
class Solution {
func numDupDigitsAtMostN(_ n: Int) -> Int {

}
}
```

Rust:

```
impl Solution {
pub fn num_dup_digits_at_most_n(n: i32) -> i32 {

}
}
```

Ruby:

```
# @param {Integer} n
# @return {Integer}
def num_dup_digits_at_most_n(n)

end
```

PHP:

```
class Solution {

/**
* @param Integer $n
* @return Integer
*/
function numDupDigitsAtMostN($n) {

}
}
```

Dart:

```
class Solution {
int numDupDigitsAtMostN(int n) {

}
}
```

Scala:

```
object Solution {
def numDupDigitsAtMostN(n: Int): Int = {

}
}
```

Elixir:

```
defmodule Solution do
@spec num_dup_digits_at_most_n(n :: integer) :: integer
def num_dup_digits_at_most_n(n) do

end
end
```

Erlang:

```
-spec num_dup_digits_at_most_n(N :: integer()) -> integer().
num_dup_digits_at_most_n(N) ->
.
```

Racket:

```
(define/contract (num-dup-digits-at-most-n n)
(-> exact-integer? exact-integer?)
)
```

Solutions

C++ Solution:

```
/*
* Problem: Numbers With Repeated Digits
* Difficulty: Hard
* Tags: dp, math
*
* Approach: Dynamic programming with memoization or tabulation
* Time Complexity: O(n * m) where n and m are problem dimensions
* Space Complexity: O(n) or O(n * m) for DP table
*/

class Solution {
public:
int numDupDigitsAtMostN(int n) {

}
};
```

Java Solution:

```
/**
* Problem: Numbers With Repeated Digits
* Difficulty: Hard
* Tags: dp, math
*
* Approach: Dynamic programming with memoization or tabulation
* Time Complexity: O(n * m) where n and m are problem dimensions
* Space Complexity: O(n) or O(n * m) for DP table
*/

class Solution {
public int numDupDigitsAtMostN(int n) {

}
}
```

Python3 Solution:

```
"""
Problem: Numbers With Repeated Digits
Difficulty: Hard
Tags: dp, math

Approach: Dynamic programming with memoization or tabulation
Time Complexity: O(n * m) where n and m are problem dimensions
Space Complexity: O(n) or O(n * m) for DP table
"""

class Solution:
def numDupDigitsAtMostN(self, n: int) -> int:
# TODO: Implement optimized solution
pass
```

Python Solution:

```
class Solution(object):
def numDupDigitsAtMostN(self, n):
"""
:type n: int
:rtype: int
```

```
"""
```

JavaScript Solution:

```
/**
* Problem: Numbers With Repeated Digits
* Difficulty: Hard
* Tags: dp, math
*
* Approach: Dynamic programming with memoization or tabulation
* Time Complexity: O(n * m) where n and m are problem dimensions
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*/

/**
* @param {number} n
* @return {number}
*/
var numDupDigitsAtMostN = function(n) {

};
```

TypeScript Solution:

```
/**
* Problem: Numbers With Repeated Digits
* Difficulty: Hard
* Tags: dp, math
*
* Approach: Dynamic programming with memoization or tabulation
* Time Complexity: O(n * m) where n and m are problem dimensions
* Space Complexity: O(n) or O(n * m) for DP table
*/

function numDupDigitsAtMostN(n: number): number {

};
```

C# Solution:

```
/*
* Problem: Numbers With Repeated Digits
* Difficulty: Hard
* Tags: dp, math
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* Approach: Dynamic programming with memoization or tabulation
* Time Complexity: O(n * m) where n and m are problem dimensions
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*/

public class Solution {
public int NumDupDigitsAtMostN(int n) {

}
}
```

C Solution:

```
/*
* Problem: Numbers With Repeated Digits
* Difficulty: Hard
* Tags: dp, math
*
* Approach: Dynamic programming with memoization or tabulation
* Time Complexity: O(n * m) where n and m are problem dimensions
* Space Complexity: O(n) or O(n * m) for DP table
*/

int numDupDigitsAtMostN(int n) {

}
```

Go Solution:

```
// Problem: Numbers With Repeated Digits
// Difficulty: Hard
// Tags: dp, math
//
// Approach: Dynamic programming with memoization or tabulation
// Time Complexity: O(n * m) where n and m are problem dimensions
// Space Complexity: O(n) or O(n * m) for DP table
```

```
func numDupDigitsAtMostN(n int) int {

}
```

Kotlin Solution:

```
class Solution {
fun numDupDigitsAtMostN(n: Int): Int {

}
}
```

Swift Solution:

```
class Solution {
func numDupDigitsAtMostN(_ n: Int) -> Int {

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Rust Solution:

```
// Problem: Numbers With Repeated Digits
// Difficulty: Hard
// Tags: dp, math
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// Approach: Dynamic programming with memoization or tabulation
// Time Complexity: O(n * m) where n and m are problem dimensions
// Space Complexity: O(n) or O(n * m) for DP table

impl Solution {
pub fn num_dup_digits_at_most_n(n: i32) -> i32 {

}
}
```

Ruby Solution:

```
# @param {Integer} n
# @return {Integer}
def num_dup_digits_at_most_n(n)
```

```
end
```

PHP Solution:

```
class Solution {

/**
* @param Integer $n
* @return Integer
*/
function numDupDigitsAtMostN($n) {

}
}
```

Dart Solution:

```
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defmodule Solution do
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