Problem 667: Beautiful Arrangement II

Problem Information

Difficulty: Medium
Acceptance Rate: 60.77%
Paid Only: No
Tags: Array, Math

Problem Description

Given two integers `n` and `k`, construct a list `answer` that contains `n` different positive integers ranging from `1` to `n` and obeys the following requirement:

* Suppose this list is `answer = [a1, a2, a3, ... , an]`, then the list `[|a1 - a2|, |a2 - a3|, |a3 - a4|, ... , |an-1 - an|]` has exactly `k` distinct integers.

Return _the list_ `answer`. If there multiple valid answers, return **any of them**.

Example 1:

Input: n = 3, k = 1 **Output:** [1,2,3] Explanation: The [1,2,3] has three different positive integers ranging from 1 to 3, and the [1,1] has exactly 1 distinct integer: 1

Example 2:

Input: n = 3, k = 2 **Output:** [1,3,2] Explanation: The [1,3,2] has three different positive integers ranging from 1 to 3, and the [2,1] has exactly 2 distinct integers: 1 and 2.

Constraints:

* `1 <= k < n <= 104`

Code Snippets

C++:

```cpp
class Solution {
public:
vector<int> constructArray(int n, int k) {


}
};
```

Java:

```java
class Solution {
public int[] constructArray(int n, int k) {


}
}
```

Python3:

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