

## **77. Combinations**

Given two integers  $n$  and  $k$ , return all possible combinations of  $k$  numbers chosen from the range  $[1, n]$ .

You may return the answer in any order.

### **Example 1:**

- **Input:**  $n = 4, k = 2$
- **Output:**  $[[1,2],[1,3],[1,4],[2,3],[2,4],[3,4]]$
- **Explanation:** There are  $4 \text{ choose } 2 = 6$  total combinations.

Note that combinations are unordered, i.e.,  $[1,2]$  and  $[2,1]$  are considered to be the same combination.

### **Example 2:**

- **Input:**  $n = 1, k = 1$
- **Output:**  $[[1]]$
- **Explanation:** There is  $1 \text{ choose } 1 = 1$  total combination.

### **Constraints:**

- $1 \leq n \leq 20$
- $1 \leq k \leq n$