# 77. Combinations

Given two integers `n` and `k`, return *all possible combinations of* `k` *numbers out of the range* `[1, n]`.

You may return the answer in **any order**.

**Example 1:**

```
Input: n = 4, k = 2
Output:
[
  [2,4],
  [3,4],
  [2,3],
  [1,2],
  [1,3],
  [1,4],
]
```

**Example 2:**

```
Input: n = 1, k = 1
Output: [[1]]
```

```python
def combine(self, n: int, k: int) -> List[List[int]]:
        res = []
        arr = [i for i in range(1,n+1)]
        self.permute(arr,[],res,k)
        return res

    def permute(self,arr,ssf,res,k):
        if len(ssf) == k:
            res.append(list(ssf))
            return
        for idx in range(len(arr)):
            ssf.append(arr[idx])
            rof = arr[idx+1:]
            self.permute(rof,ssf,res,k)
            ssf.pop()
```