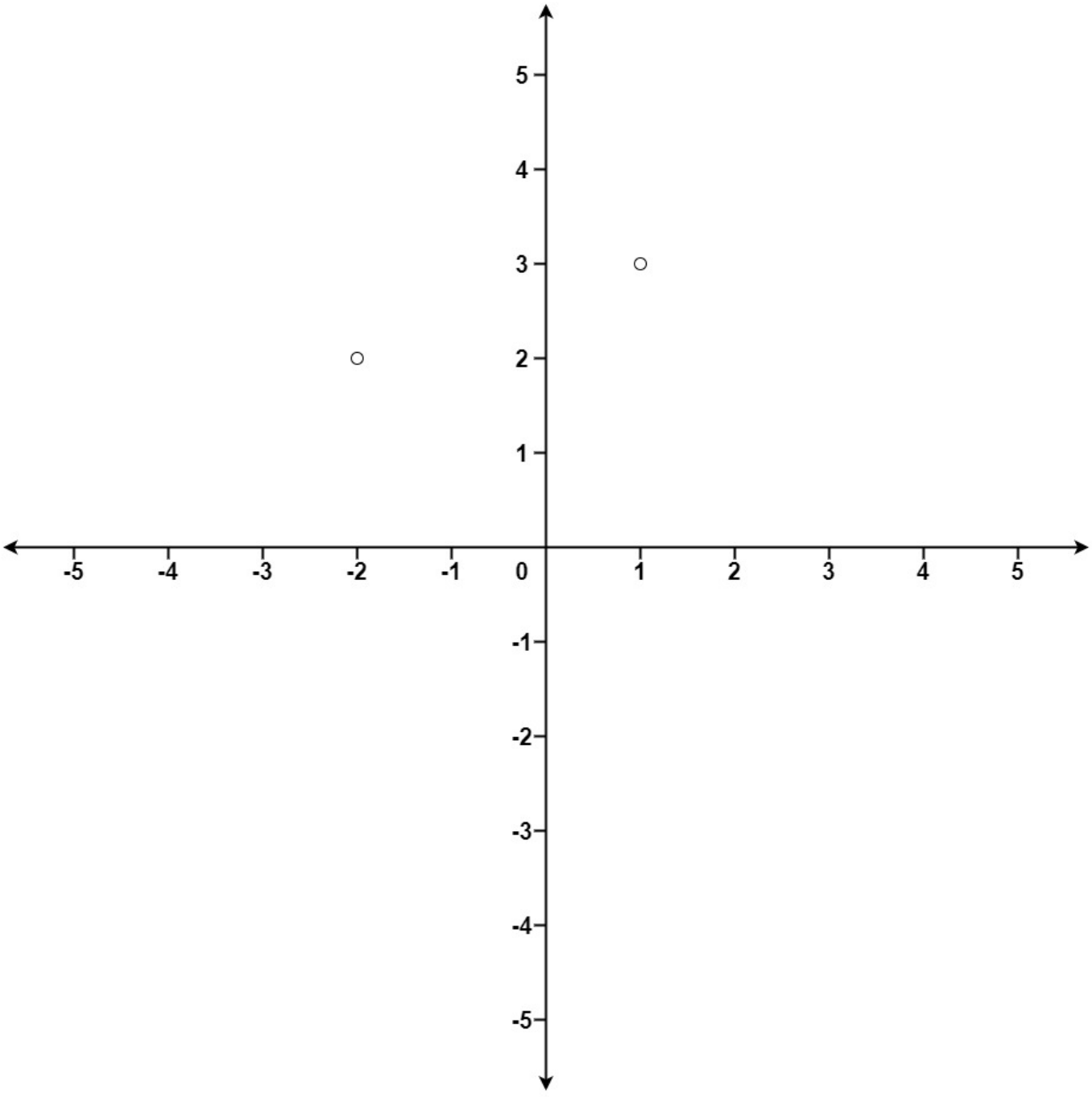
973. K Closest Points to Origin

Given an array of `points` where `points[i] = [xi, yi]` represents a point on the **X-Y** plane and an integer `k`, return the `k` closest points to the origin `(0, 0)`.

The distance between two points on the **X-Y** plane is the Euclidean distance (i.e., `√(x1 - x2)2 + (y1 - y2)2`).

You may return the answer in **any order**. The answer is **guaranteed** to be **unique** (except for the order that it is in).



Input: points = [[1,3],[-2,2]], k = 1
Output: [[-2,2]]
Explanation:
The distance between (1, 3) and the origin is sqrt(10).
The distance between (-2, 2) and the origin is sqrt(8).
Since sqrt(8) < sqrt(10), (-2, 2) is closer to the origin.
We only want the closest k = 1 points from the origin, so the answer is just [[-2,2]].

Example 2:

Input: points = [[3,3],[5,-1],[-2,4]], k = 2
Output: [[3,3],[-2,4]]
Explanation: The answer [[-2,4],[3,3]] would also be accepted.

```
def kClosest(self, points: List[List[int]], k: int) -> List[List[int]]:
        res = {}
        for x,y in points:
            dis = self.distance(x,y)
            if dis in res:
                res[dis].append([x,y])
            else:
                res[dis] = [[x,y]]
        res = sorted(res.items(),key=lambda x:(x[0]))
        # res = heapq.heapify(res)
        ans = []
        i = 0
        while k>0:
            ans = ans+res[i][1]
            k = k-len(res[i][1])
            i = i+1
        return ans




    def distance(self,x,y):
        temp = pow(x,2)+pow(y,2)
        return pow(temp,0.5)
```