**Approach:**

Sort 1 array in increasing order and the other in decreasing order  
If any pair is unable to generate a sum < k that means there exists no other permutation that can satisfy given property

This comes from the fact that:

**Proof**:

Assume Asort is sorted in ascending(small to large) and Bsort is sorted in descending(large to small)

Suppose Asort[i] + Bsort[i] < k now assume Asort[i] is the smallest and Bsort[i] will be largest then no other pair can be formed with a sum larger than this. Therefore sum will always be less than k

**Code**

a = sorted(a)

b = sorted(b)[::-1]

pair\_sum = 0

for x,y in zip(a,b):

if (x+y) < k:

return False

return True