#1

I.Q: Given an array of distinct integer values, count the number of pairs of integers that have difference K. For example,

Given: [1, 7, 5, 9, 2, 12, 3] , K=2

Output: (1, 3), (3, 5), (5, 7), (7, 9)

Solution:

Pseudocode: Iterate through array and put each number in a Hash Table. Then iterate again and see if a[i]+k is in hash table. If so, then that is a pair. Print it.

Code:

```
int[] a = {1, 7, 5, 9, 2, 12, 3};

int k = 2;

HashMap<Integer, Integer> h = new HashMap();

for (int i : a) {
    h.put(i, i);
}
for (int i : a) {
 if(h.get(i+k) != null) // (i, i+k) is pair
     System.out.println("(" + i + ", " + (i+k) + ")");
}
```