Absolute difference.

$5 - 4 = 1$

$4 - 5 = 1$

Always in +ve

difference

$5 - 4 = 1$

$4 - 5 = -1$

[math.abs → for finding absolute difference]

```
scanner s =
    int n =
    int arr[]
    for(){
    }
int k =

pairs(arr,n,k);

public static void pairs(int arr[], int n, int k){
    for(int i = 0; i < n; i++){
        for(int j = 0; j < n; i++){
            if(Math.abs(arr[i] - arr[j]) == k){
                System.out.println(arr[i] + " " + arr[j]);
            }
        }
    }
}
```

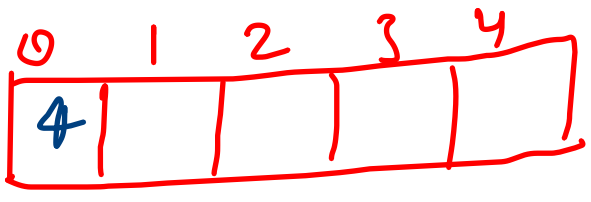
HW_Find Difference 1

HW_Counting Smaller Numbers in an Array

```
    // take input array

    int result[] = lessThan(arr,n);
    for(){
        Syso(i + " ");
    }
}

public static int[] lessThan(int arr[], int n){
    int counts[] = new int[n];
    for(int i = 0; i < n; i++){
        int count = 0;
        for(int j = 0; j < n; j++){
            if(i != j && arr[j] < arr[i]){
                count++;
            }
        }
        counts[i] = count;
    }
    return counts;
}
```



counts[]

0 1 2 3 4
8 1 2 2 3

i = 0 < 5 T

count = ~~0 1 2 3~~ 4

j = 0 < 5 T

0 != 0 F

j = 1 < 5

0 != 1 T

arr[1] < arr[0]

1 < 8 T

count = 4

counts[i]

count[0]

j = 2 < 5 T

0 != 2 arr[2] < arr[0]

2 < 8 T

j = 3 < 5 T

0 != 3 arr[3] < arr[0]

2 < 8 T

j = 4 < 5 T

0 != 4 arr[4] < arr[0]

3 < 8 T

j = 5 < 5 X