

# Sort by Absolute Difference

---

Given an array of **N** elements and a number **K**. The task is to arrange array elements according to the absolute difference with K, i. e., element having minimum difference comes first and so on.

**Note :** If two or more elements are at equal distance arrange them in same sequence as in the given array.

## Example 1:

```
Input: N = 5, K = 7
arr[] = {10, 5, 3, 9, 2}
Output: 5 9 10 3 2
Explanation: Sorting the numbers according to
the absolute difference with 7, we have
array elements as 5, 9, 10, 3, 2.
```

## Example 2:

```
Input: N = 5, K = 6
arr[] = {1, 2, 3, 4, 5}
Output: 5 4 3 2 1
Explanation: Sorting the numbers according to
the absolute difference with 6, we have array
elements as 5 4 3 2 1.
```

## Your Task:

This is a functional problem. You only need to complete the function **sortABS()**. The **printing** is done automatically by the **driver code**.

**Expected Time Complexity:**  $O(N \log(N))$ .

**Expected Auxiliary Space:**  $O(N)$ .

## Constraints:

$1 \leq N \leq 10^5$

$1 \leq K \leq 10^5$

```
class Solution:

    #Function to sort the array according to difference with given number.
    def sortAbs(self,a, n, k):
        #code here
        # ans = []
        # for i in range(n):
        #     ans.append([a[i],i])
```

```
a.sort(key=lambda x: abs(x-k))  
# return [x[0] for x in ans]  
return a
```