

EXPERIMENT-10

TO FIND SORTED ARRAY USING ANY BUILT_IN FUNCTION

PROGRAM:

```
Programiz Python Online Compiler

main.py
1- def merge_sort(arr):
2-     if len(arr) <= 1:
3-         return arr
4-     mid = len(arr) // 2
5-     left = merge_sort(arr[:mid])
6-     right = merge_sort(arr[mid:])
7-     return merge(left, right)
8- def merge(left, right):
9-     result = []
10-    i = j = 0
11-    while i < len(left) and j < len(right):
12-        if left[i] < right[j]:
13-            result.append(left[i])
14-            i += 1
15-        else:
16-            result.append(right[j])
17-            j += 1
18-    result.extend(left[i:])
19-    result.extend(right[j:])
20-    return result
21- nums = [5, 2, 3, 1, 4]
22- sorted_nums = merge_sort(nums)
23- print(sorted_nums)
24
25
```

OUTPUT:

```
Output
[1, 2, 3, 4, 5]

=== Code Execution Successful ===
```