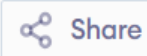


MERGE SORT

PROGRAM

main.c



Run

```
1  #include <stdio.h>
2  void merge(int a[], int l, int m, int r) {
3      int i = l, j = m + 1, k = 0;
4      int temp[100];
5  while (i <= m && j <= r) {
6      if (a[i] < a[j])
7          temp[k++] = a[i++];
8      else
9          temp[k++] = a[j++];
10 }
11 while (i <= m) temp[k++] = a[i++];
12 while (j <= r) temp[k++] = a[j++];
13 for (i = l, k = 0; i <= r; i++, k++)
14     a[i] = temp[k];
15 }
16 void mergeSort(int a[], int l, int r) {
17     if (l < r) {
18         int m = (l + r) / 2;
19         mergeSort(a, l, m);
20         mergeSort(a, m + 1, r);
21         merge(a, l, m, r);
22     }
23 }
```

```
int main() {
    int a[] = {5, 2, 4, 6, 1, 3};
    int n = sizeof(a) / sizeof(a[0]);
    mergeSort(a, 0, n - 1);
    printf("Sorted array: ");
    for (int i = 0; i < n; i++)
        printf("%d ", a[i]);
    printf("\n");
    return 0;
}
```

OUTPUT

Output

Clear

Sorted array: 1 2 3 4 5 6

=== Code Execution Successful ===