```c
#include <stdio.h>

void merge(int a[], int l, int m, int r) {
    int i = l, j = m + 1, k = 0;
    int temp[r - l + 1];

    while (i <= m && j <= r)
        temp[k++] = (a[i] < a[j]) ? a[i++] : a[j++];

    while (i <= m) temp[k++] = a[i++];
    while (j <= r) temp[k++] = a[j++];

    for (i = l, k = 0; i <= r; i++, k++)
        a[i] = temp[k];
}

void mergeSort(int a[], int l, int r) {
    if (l < r) {
        int m = (l + r) / 2;
        mergeSort(a, l, m);
        mergeSort(a, m + 1, r);
        merge(a, l, m, r);
    }
}

int main() {
    int a[] = {5, 2, 9, 1, 6};
    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]);
    return 0;
}
```

```
Sorted Array: 1 2 5 6 9

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