

## Problem 11: Wave Array

### Code:

```
#include <stdio.h>

#include <stdlib.h>

int compare(const void *a, const void *b) {
    return (*(int *)a - *(int *)b);
}

void convertToWave(int arr[], int n) {
    qsort(arr, n, sizeof(int), compare);
    for (int i = 0; i < n - 1; i += 2) {
        int temp = arr[i];
        arr[i] = arr[i + 1];
        arr[i + 1] = temp;
    }
}

void printArray(int arr[], int n) {
    for (int i = 0; i < n; i++) {
        printf("%d ", arr[i]);
    }
    printf("\n");
}

int main() {
    int n;

    printf("Enter the number of elements: ");
```

```
scanf("%d", &n);  
    int arr[n];  
    printf("Enter %d elements: ", n);  
    for (int i = 0; i < n; i++) {  
        scanf("%d", &arr[i]);  
    }  
    printf("Original array: ");  
    printArray(arr, n);  
    convertToWave(arr, n);  
    printf("Wave array: ");  
    printArray(arr, n);  
  
    return 0;  
}
```