

Prob4. Given an array of integers `arr`, the task is to sort the array in ascending order and return it, without using any built-in functions.

Solve:

```
#include <stdio.h>

void bubbleSort(int arr[], int n) {
    for (int i = 0; i < n - 1; i++) {
        int swapped = 0;
        for (int j = 0; j < n - i - 1; j++) {
            if (arr[j] > arr[j + 1]) {
                int temp = arr[j];
                arr[j] = arr[j + 1];
                arr[j + 1] = temp;

                swapped = 1;
            }
        }
        if (swapped == 0) {
            break;
        }
    }
}

int main() {
    int arr[] = {64, 34, 25, 12, 22, 11, 90};
    int n = sizeof(arr) / sizeof(arr[0]);

    printf("Original array: \n");
    for (int i = 0; i < n; i++) {
        printf("%d ", arr[i]);
    }
}
```

```
bubbleSort(arr, n);

printf("\nSorted array in ascending order: \n");
for (int i = 0; i < n; i++) {
    printf("%d ", arr[i]);
}

return 0;
}
```