```c
// Counting sort in C programming

#include <stdio.h>

void countingSort(int array[], int size)
{
    int output[10];

    int max = array[0];
    for (int i = 1; i < size; i++)
    {
        if (array[i] > max)
            max = array[i];
    }
    // The size of count must be at least the (max+1) but
    // we cannot assign declare it as int count(max+1) in C as
    // it does not support dynamic memory allocation.
    // So, its size is provided statically.
    int count[10];
    for (int i = 0; i <= max; ++i)
    {
        count[i] = 0;
    }
    for (int i = 0; i < size; i++)
    {
        count[array[i]]++;
    }
    for (int i = 1; i <= max; i++)
    {
        count[i] += count[i - 1];
    }
    for (int i = size - 1; i >= 0; i--)
    {
        output[count[array[i]] - 1] = array[i];
        count[array[i]]--;
    }
    for (int i = 0; i < size; i++)
    {
        array[i] = output[i];
    }
}
void printArray(int array[], int size)
{
    for (int i = 0; i < size; ++i)
    {
        printf("%d  ", array[i]);
    }
    printf("\n");
}
int main()
{
    int array[] = {4, 2, 2, 8, 3, 3, 1};
    int n = sizeof(array) / sizeof(array[0]);
    countingSort(array, n);
    printArray(array, n);
}
```