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#include <stdio.h>
#include <stdlib.h>
#include <time.h>

int swapCount=0;
void quickSort(int arr[], int left, int right) {
    int i = left, j = right;
    int tmp;
    int pivot = arr[(left + right) / 2];
    while (i <= j) {
        while (arr[i] < pivot)
            i++;
        while (arr[j] > pivot)
            j--;
        if (i <= j) {
            tmp = arr[i];
            arr[i] = arr[j];
            arr[j] = tmp;
            i++;
            j--;
            swapCount++;
        }
    };

    if (left < j)
        quickSort(arr, left, j);
    if (i < right)
        quickSort(arr, i, right);
}

int main() {
    clock_t start_t, end_t, total_t;
    int i,n;
    printf("Enter number of element to test : \n");
    scanf("%d",&n);
    int a[n];
    for(i=0;i<n;i++) {
        a[i]= (rand()%n*10) +1;
    }
    start_t = clock();
    quickSort(a,0,n-1);
    end_t = clock();
    for(i=0;i<n;i++) {
        printf("%d \n",a[i]);
    }
    printf("Total Swapped in QuickSort: %d \n",swapCount);
    total_t = ((double)(end_t - start_t) / CLOCKS_PER_SEC)*CLOCKS_PER_SEC;
    printf("Total time taken by CPU: %f\n", (double)total_t/(double)CLOCKS_PER_SEC);
};
}
```