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Q → Quick sort

```
#include <stdio.h>
#include <time.h>
void swap (int *a, int *b) {
    int temp = *a;
    *a = *b;
    *b = temp;
}
int partition(int a[], int l, int r){
    int pivot = a[r], pindex = l;
    for(int i = l; i < r; i++) {
        if (a[i] <= pivot) {
            swap(&a[pindex], &a[i]);
            pindex++; }
    }
    swap(&a[pindex], &a[r]);
    return pindex;
}
void quicksort (int a[], int l, int r){
    if (l < r) {
        int p = partition (a, l, r);
        quicksort (a, l, p-1);
        quicksort (a, p+1, r); }
}
int main() {
```

```
int n, a[100];
printf("Enter no of elements :- ");
scanf("%d", &n);
printf("Enter elements");
for(int i=0; i<n; i++){
    scanf("%d", &a[i]); }
double q = 0.0;
clock_t begin = clock();
quicksort(a, 0, n-1);
clock_t end = clock();
q = ((double) end - begin) / CLOCKS_PER_SEC;
printf("Elements :- ");
for(int i = 0; i<n; i++){
    printf("%d ", a[i]);
}
printf("Time taken :- %f", q);
return 0;
}
```