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📖 muhammed-salman / **DSLab**

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Branch: master ▾   **DSLab** / **quicksort.c**   Find file   Copy path

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muhammed-salman Quick sort   93704ef 22 days ago

1 contributor

52 lines (47 sloc) | 874 Bytes   Raw   Blame   History   ✏   🗑

```c
1   #include<stdio.h>
2   #define MAX_SIZE 100
3
4   int split(int arr[],int lower,int upper){
5           int pivot=lower,a=lower+1,b=upper,temp;
6           while(b>a){
7                   while(arr[a]<arr[pivot])
8                           a++;
9                   while(arr[b]>arr[pivot])
10                          b--;
11                  if(b>a)
12                  {
13                          temp=arr[a];
14                          arr[a]=arr[b];
15                          arr[b]=temp;
16                  }
17          }
18          temp=arr[pivot];
19          arr[pivot]=arr[b];
20          arr[b]=temp;
21          return b;
22  }
23
24  void quick_sort(int a[],int lower,int upper){
25          int i;
26          if(lower<upper){
27                  i=split(a,lower,upper);
28                  quick_sort(a,lower,i-1);
29                  quick_sort(a,i+1,upper);
30          }
31  }
32
33
34  int main(){
35          int a[MAX_SIZE],i,n;
36          printf("\nEnter the size of array(1 to 100): ");
37          scanf("%d",&n);
38          if(n<0 || n>100)
39          {
40                  printf("\nInvalid Array Size");
41                  return 0;
42          }
43          printf("\nEnter the elements of array:\n");
44          for(i=0;i<n;i++)
45                  scanf("%d",&a[i]);
46          quick_sort(a,0,n-1);
47          printf("\nSorted Array:\n");
48          for(i=0;i<n;i++)
49                  printf("%d\t",a[i]);
50          return 0;
51  }
```