

Online C Compiler.

Code, Compile, Run and Debug C program online.

Write your code in this editor and press "Run" button to compile

```
#include <stdio.h>
```

```
#include <time.h>
```

```
void delay(){  
    for (int i=0;i<10000000;i++){  
        //delay  
    }  
}
```

```
void quicksort(int arr[2000],int f,int l){  
    int i, j, pivot, temp;  
    if(f<l){  
        pivot=f;  
        i=f;  
        j=l;  
        while(i<j){  
            while(arr[i]<=arr[pivot]&& i<l){  
                i++;  
            }  
            while(arr[j]>arr[pivot]){  
                j--;  
            }  
            if(i<j){  
                temp=arr[i];  
                arr[i]=arr[j];  
                arr[j]=temp;  
            }  
        }  
        temp=arr[pivot];  
        arr[pivot]=arr[j];  
        arr[j]=temp;  
    }
```

mpiler

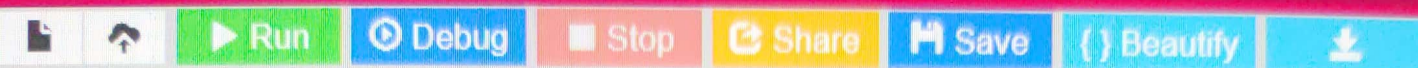
 Run  Debug  Stop  Share  Save  Beautify 

main.c

```
38     arr[j]=temp;
39
40     quicksort(arr,f,j-1);
41     quicksort(arr,j+1,l);
42 }
43 delay();
44 }
45
46 //display array
47 void display(int arr[],int n)
48 {
49     int i;
50     for(i=0;i<n;i++)
51     {
52         printf("%d ",arr[i]);
53     }
54 }
55
56 int main(){
57     int i, n, arr[2000];
58     int rand(void);
59     clock_t start,end;
60     double timetaken;
61
62     printf("Enter the number of elements :\t");
63     scanf("%d",&n);
64
65     for(i=0;i<n;i++){
66         arr[i]=rand() % 2000 + 1;
67     }
68     printf("\n\nUnsorted Array:\n");
69     display(arr,n);
70
71     start=clock();
72     quicksort(arr,0,n-1);
73     end=clock();
74     timetaken=((double)(end-start))/CLOCKS_PER_SEC;
75
```

input

Press ENTER to exit console.



```
45
46 //display array
47 void display(int arr[],int n)
48 {
49     int i;
50     for(i=0;i<n;i++)
51     {
52         printf("%d ",arr[i]);
53     }
54 }
55
56 int main(){
57     int i, n, arr[2000];
58     int rand(void);
59     clock_t start,end;
60     double timetaken;
61
62     printf("Enter the number of elements :\t");
63     scanf("%d",&n);
64
65     for(i=0;i<n;i++){
66         arr[i]=rand() % 2000 + 1;
67     }
68     printf("\n\nUnsorted Array:\n");
69     display(arr,n);
70
71     start=clock();
72     quicksort(arr,0,n-1);
73     end=clock();
74     timetaken=((double)(end-start))/CLOCKS_PER_SEC;
75
76     printf("\n\nArray after Quick Sort:\n");
77     display(arr,n);
78
79     printf("\n\nTime taken for Quick Sort: %lf s",timetaken);
80     return 0;
81 }
82
```

Enter the number of elements : 5

Unsorted Array:

1384 887 778 916 1794

Array after Quick Sort:

778 887 916 1384 1794

Time taken for Quick Sort: 0.167881 s

...Program finished with exit code 0

Press ENTER to exit console.