mpiler

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main.c

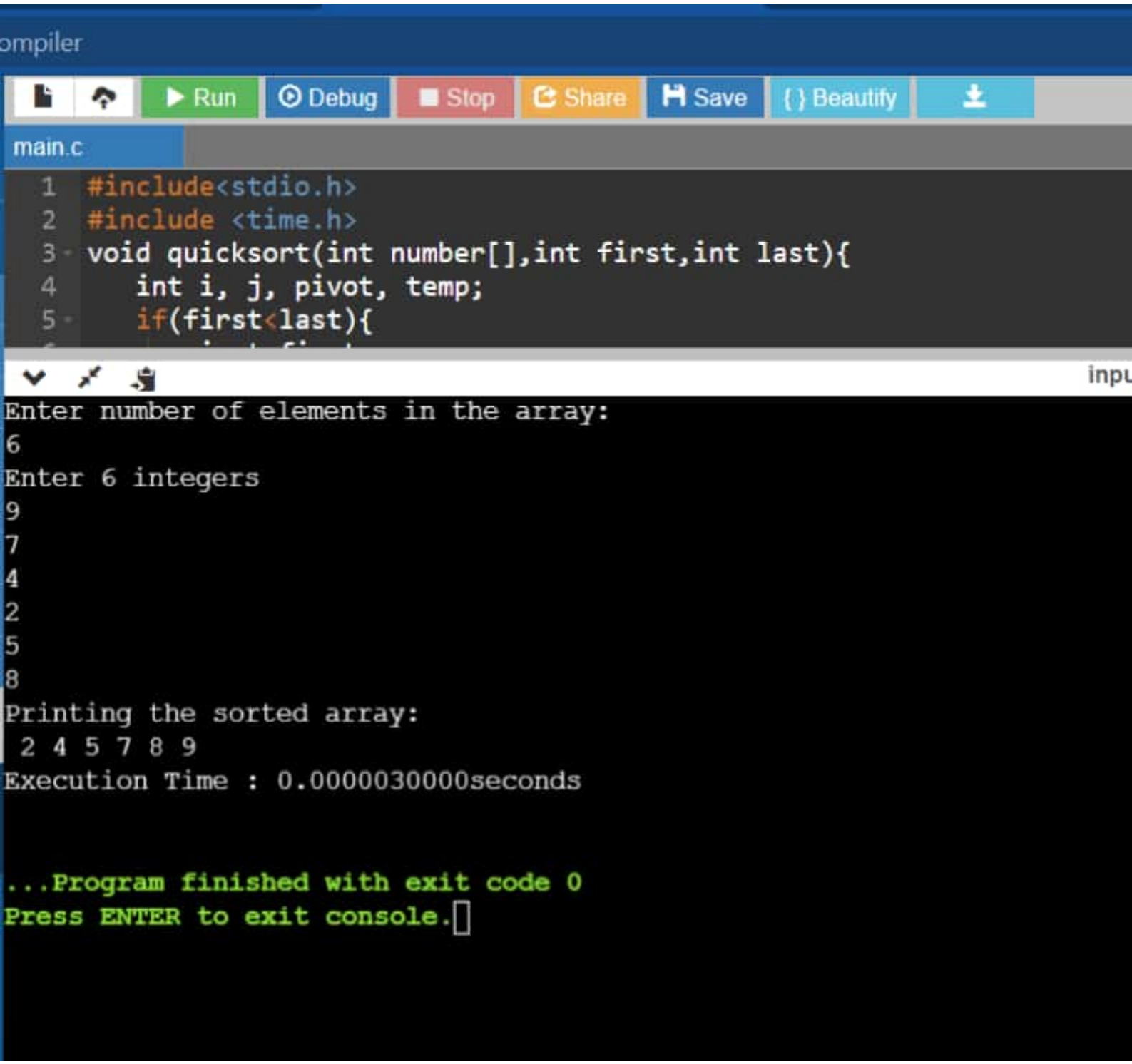
```c
#include<stdio.h>
#include <time.h>
void quicksort(int number[],int first,int last){
   int i, j, pivot, temp;
   if(first<last){
      pivot=first;
      i=first;
      j=last;
      while(i<j){
         while(number[i]<=number[pivot]&&i<last)
            i++;
         while(number[j]>number[pivot])
            j--;
         if(i<j){
            temp=number[i];
            number[i]=number[j];
            number[j]=temp;
         }
      }
      temp=number[pivot];
      number[pivot]=number[j];
      number[j]=temp;
      quicksort(number,first,j-1);
      quicksort(number,j+1,last);
   }
}
int main(){
   int i, n, count, number[n];
   printf("Enter number of elements in the array:\n");
   scanf("%d",&count);
   printf("Enter %d integers\n", count);
   for(i=0;i<count;i++)
      scanf("%d",&number[i]);
 clock_t begin = clock();
   quicksort(number,0,count-1);
```

inpu

```
10          while(number[i]<=number[pivot]&&i<last)
11             i++;
12          while(number[j]>number[pivot])
13             j--;
14          if(i<j){
15             temp=number[i];
16             number[i]=number[j];
17             number[j]=temp;
18          }
19       }
20       temp=number[pivot];
21       number[pivot]=number[j];
22       number[j]=temp;
23       quicksort(number,first,j-1);
24       quicksort(number,j+1,last);
25    }
26 }
27 int main(){
28    int i, n, count, number[n];
29    printf("Enter number of elements in the array:\n");
30    scanf("%d",&count);
31    printf("Enter %d integers\n", count);
32    for(i=0;i<count;i++)
33       scanf("%d",&number[i]);
34  clock_t begin = clock();
35    quicksort(number,0,count-1);
36    clock_t end = clock();
37    printf("Printing the sorted array:\n");
38    for(i=0;i<count;i++){
39       printf(" %d",number[i]);
40    }
41   double time_spent = (double)(end - begin) / CLOCKS_PER_SEC;
42   printf("\nExecution Time : %.10fseconds\n", time_spent);
43    return 0;
44 }
```

input

Press ENTER to exit console



Untitled spreadsheet

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Quick Sort	
N	Time
100	0.000041
200	0.000065
300	0.000091
400	0.000105
500	0.000191
600	0.000201
700	0.000252
800	0.000272
900	0.000297
1000	0.000329