

```
1  #include<stdio.h>
2  #include<time.h>
3  #include<stdlib.h>
4
5  void median(int arr[],int size)
6  {
7      float n=(arr[size/2]+arr[(size-1)/2])/2.0;
8      printf("\nThe median of the array is: %f",n);
9  }
10
11 void sort(int arr[],int size)
12 {
13     int temp,i,j;
14     for(i=0;i<size;i++)
15     {
16         for(j=i;j<size;j++)
17         {
18             if(arr[j]<arr[i])
19             {
20                 temp=arr[i];
21                 arr[i]=arr[j];
22                 arr[j]=temp;
23             }
24         }
25     }
26 }
27
28 void printArray(int arr[],int size)
29 {
30     for(int i=0;i<size;i++)
31     {
32         printf("%d\n",arr[i]);
33     }
34 }
35
36 int main()
37 {
38     int n,i,j;
39     printf("Enter size of both arrays: ");
40     scanf("%d",&n);
41     int a[n],b[n],c[2*n];
```

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40     scanf("%d",&n);
41     int a[n],b[n],c[2*n];
42     for(i=0;i<n;i++)
43     {
44         a[i]=rand()%100;
45     }
46     for(i=0;i<n;i++)
47     {
48         b[i]=rand()%100;
49     }
50     printf("\nElements of first array-\n");
51     printArray(a,n);
52
53     printf("\nElements of second array-\n");
54     printArray(b,n);
55
56     sort(a,n);
57     sort(b,n);
58
59     printf("\nSorted first array-\n");
60     printArray(a,n);
61
62     printf("\nSorted second array-\n");
63     printArray(b,n);
64
65     clock_t begin = clock();
66
67     for(j=0;j<n;j++)
68     {
69         c[j]=a[j];
70     }
71     for(int k=0;k<n;k++)
72     {
73         c[j+k]=b[k];
74     }
75     printf("\nMerged array is-\n");
76     printArray(c,2*n);
77
78     median(c,2*n);
79
80     clock_t end = clock();

```

```
47 {
48     b[i]=rand()%100;
49 }
50 printf("\nElements of first array-\n");
51 printArray(a,n);
52
53 printf("\nElements of second array-\n");
54 printArray(b,n);
55
56 sort(a,n);
57 sort(b,n);
58
59 printf("\nSorted first array-\n");
60 printArray(a,n);
61
62 printf("\nSorted second array-\n");
63 printArray(b,n);
64
65 clock_t begin = clock();
66
67 for(j=0;j<n;j++)
68 {
69     c[j]=a[j];
70 }
71 for(int k=0;k<n;k++)
72 {
73     c[j+k]=b[k];
74 }
75 printf("\nMerged array is-\n");
76 printArray(c,2*n);
77
78 median(c,2*n);
79
80 clock_t end = clock();
81 double time_spent = (double)(end - begin) / CLOCKS_PER_SEC;
82 printf("\nExecution Time : %f seconds\n", time_spent);
83
84
85 return 0;
86 }
87
```

"C:\web developement(html.css.js)\MEDIAN OF TWO SORTED ARRAY AFTER MERGING.exe"

Elements of second array-

0

69

24

Sorted first array-

34

41

67

Sorted second array-

0

24

69

Merged array is-

34

41

67

0

24

69

The median of the array is: 33.500000

Execution Time : 0.000000 seconds

Process returned 0 (0x0) execution time : 20.310 s

Press any key to continue.