



SelectionSort.c

Saved

```
1 #include <stdio.h>
2 #include<time.h>
3 void selectionSort(int a[], int n)
4 {
5     int i, j, small, pos;
6     for (i = 0; i < n-1; i++){
7         {
8             small=a[i];
9             pos = i;
10            for (j = i+1; j < n; j++){
11                if (a[j] < small){
12                    small=a[j];
13                    pos= j;
14                }
15            }
16            int temp;
17            temp=a[i];
18            a[i]=a[pos];
19            a[pos]=temp;
20            printf("\nArray after Pass %d : ",i+1);
21            printArray(a, n);
22        }
23    }
24 void printArray(int a[], int n)
25 {
26     int i;
27     for (i=0; i < n; i++)
28         printf("%d ", a[i]);
29 }
30 void main()
31 {
32     int n, array[n];
33     srand(time(0));
34     printf("Enter number of elements in Array:");
35     scanf("%d",&n);
36     for(int c=0;c<n;c++)
37         array[c]=rand()%100;
38     printf("The Array List is,\n");
39     for(int c=0;c<n;c++)
40         printf("%d ",array[c]);
41     clock_t start,end;
42     start=clock();
43     for (int c = 1; c <= 32767; c++) for (int d = 1; d <= 32767; d++) { }
44     selectionSort(array, n);
45     end=clock();
46     printf("\nTime Taken:%lf",(double)(end-start)/CLOCKS_PER_SEC);
47
48 }
```

× Terminal



```
Array after Pass 195 : 0 1 1 2 2 3 3 3 4 4 4
Array after Pass 196 : 0 1 1 2 2 3 3 3 4 4 4
Array after Pass 197 : 0 1 1 2 2 3 3 3 4 4 4
Array after Pass 198 : 0 1 1 2 2 3 3 3 4 4 4
Array after Pass 199 : 0 1 1 2 2 3 3 3 4 4 4
Time Taken:0.067869
Process finished.
```

50	0.00622
100	0.0158
200	0.0621
500	0.391536
700	0.756192
1000	1.4995



