

C:\Users\Admin\OneDrive\Desktop\4th sem\ADA lab\ADA lab programs\bubble\_sort\_graph\selection\_bubble\_sort\_graph.cpp - Dev-C++ 5.11

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TDM-GCC 4.9.2 64-bit Release

(globals)

selection\_bubble\_sort\_graph.cpp

```
1 #include<stdio.h>
2 #include<stdlib.h>
3 #include<time.h>
4 void swap(int *x, int *y)
5 {
6     int temp;
7     temp=(*x);
8     (*x)=(*y);
9     (*y)=temp;
10 }
11 void bubble(int a[],int n)
12 {
13     int i=0,j=0;
14     int swapped;
15     while(i!=n-1){
16         swapped = 0;
17         for(j=0;j<n-i-1;j++){
18             if(a[j]>a[j+1]){
19                 swap(&a[j], &a[j+1]);
20                 swapped = 1;
21             }
22         }
23         i++;
24         if(swapped==0)
25             return;
26     }
27 }
28 void selection(int a[],int n)
29 {
30     int i,j,min;
31     for(i=0;i<n-1;i++){
32         min=i;
33         for(j=i+1;j<n;j++){
34             if(a[j]<a[min]){
35                 min=j;
36             }
37         }
38         swap(&a[min], &a[i]);
39     }
40 }
41 void display(int a[],int n)
42 {
43     int i;
44     for(i=0;i<n;i++){
45         printf("%d ", a[i]);
46     }
47 }
48 }
```

Compiler Resources Compile Log Debug Find Results

Line: 1 Col: 1 Sel: 0 Lines: 84 Length: 1755 Insert Done parsing in 0.062 seconds

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ENG 10:23 12-05-2021

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(globals)

selection\_bubble\_sort\_graph.cpp

```
38     }
39     swap(&a[mi n], &a[i]);
40 }
41 }
42 void display(int a[], int n)
43 {
44     int i;
45     for (i=0; i<n; i++){
46         printf("%d ", a[i]);
47     }
48 }
49 int main()
50 {
51     int a[5000], i, c, n=0, j, k;
52     printf("1.Selection Sort\n2.Bubble Sort\n3.Exit\n");
53     scanf("%d", &i);
54     printf("Enter the no. of times u want sort : ");
55     scanf("%d", &j);
56     for(n;n<j;n=n+1){
57         printf("\nEnter array size : ");
58         scanf("%d", &k);
59         for (c=0; c<k; c++){
60             a[c]=rand();
61         }
62         double ss_time=0.0;
63         clock_t begin=clock();
64         if(i==1){
65             printf("\n\n\n");
66             printf("Selection Sort :-\n");
67             selection(a, k);
68         }
69         else if(i==2){
70             printf("\n\n\n");
71             printf("Bubble Sort :-\n");
72             bubble(a, k);
73         }
74         else{
75             exit(0);
76         }
77         display(a, k);
78         clock_t end=clock();
79         ss_time+=(double)(end-begin)/CLOCKS_PER_SEC;
80         printf("\nn=%d\tTi me: %f\n", k, ss_time);
81     }
82 }
83 return 0;
84 }
```

Compiler Resources Compile Log Debug Find Results

Line: 1 Col: 1 Sel: 0 Lines: 84 Length: 1755 Insert Done parsing in 0.062 seconds

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10:24 12-05-2021 ENG

```
C:\Users\Admin\OneDrive\Desktop\4th sem\ADA lab\ADA lab programs\bubble_selection_sort_graph\selection_bubble_sort_graph.exe
1.Selection Sort
2.Bubble Sort
3.Exit
1
Enter the no. of times u want sort : 8
Enter array size : 5

Selection Sort :-
41 6334 18467 19169 26500
n=5      Time:0.008000

Enter array size : 10

Selection Sort :-
5705 9961 11478 15724 16827 23281 24464 26962 28145 29358
n=10     Time:0.010000

Enter array size : 20

Selection Sort :-
153 292 491 1869 2995 3902 4827 5436 5447 11538 11942 12382 14604 14771 17421 18716 19718 19895 21726 32391
n=20     Time:0.000000

Enter array size : 50

Selection Sort :-
288 778 1842 3035 3548 4664 6729 6868 7711 8723 8942 9040 9741 9894 12316 12623 12859 15006 15141 15350 15890 17035 17673 18756 19264 19629 19912 19954 20037 22190 22648 23805 23811 24084 24370 24393 25547 25667 26299 27446 27529 27644 2
8253 28703 30106 30333 31101 31322 32662 32757
n=50     Time:0.000000

Enter array size : 100

Selection Sort :-
53 900 1150 1655 1999 2082 2306 3430 3602 4031 4041 4596 4639 4734 4833 4966 5021 5097 5537 5829 6270 6359 6422 6483 7376 8281 8909 9161 9374 9758 9930 10291 10383 11020 11323 11337 11840 12052 12287 13030 13290 13931 13966 13977 14945 1
5457 15573 15574 16118 16413 16512 16541 16941 16944 17410 18007 18588 18636 18762 19072 19668 20537 21538 21548 21724 22355 22386 22704 22929 23199 23655 23986 24021 24221 24350 24484 24626 24767 24946 26308 26418 26777 26924 27348 2735
0 27506 27595 27624 27753 28745 29168 29658 30191 30836 31107 31115 31673 32209 32439 32591
n=100    Time:0.010000

Enter array size : 300

Selection Sort :-
140 142 193 235 467 481 912 1018 1416 1543 1587 1763 1832 1924 1926 2125 2154 2161 2168 2368 2421 2510 2600 2625 2634 2668 2695 2800 3093 3102 3195 3297 3434 3487 3557 3625 3728 3753 3788 4099 4144 4169 4313 4313 4414 4474 4667 4678 4745
4757 4802 4886 5002 5075 5109 5249 5535 5699 5786 5844 6038 6191 6224 6617 6618 6900 7129 7164 7285 7391 7441 7448 7487 7518 7616 7627 7882 7900 7958 8177 8313 8360 8480 8492 9010 9314 9503 9512 9514 9576 9789 9832 9905 10021 10202 1028
5 10322 10466 10555 10585 10712 10808 11008 11023 11173 11511 11701 11833 12043 12044 12263 12292 12423 12455 12529 12550 12949 13031 13061 13064 13186 13401 13458 13694 13985 14018 14181 14270 14309 14310 14343 14688 14798 14893 14989 1
5255 15281 16105 16139 16202 16279 16282 16423 16519 16549 16687 17086 17189 17192 17222 17253 17371 17437 17451 17505 17773 17807 17861 17958 18060 18087 18114 18127 18190 18538 18651 18787 18875 18896 18935 19156 19187 19558 19589 1971
1 19796 19815 19866 19976 20024 20053 20055 20142 20159 20222 20315 20328 20416 20450 20472 20485 20580 20600 20649 20671 20798 20945 21003 21119 21425 21624 21659 21694 21718 21881 22413 22466 22483 22549 22593 22646 22658 22725 22758 2
2798 22813 22888 23152 23195 23196 23622 23646 23757 23844 23851 24179 24182 24272 24355 24372 24389 24488 24648 25200 25484 25721 25734 25760 25824 25874 25996 26154 26292 26302 26362 26439 26477 26576 26869 27088 27157 27432 27503 2775
6 27892 27938 27982 28009 28019 28022 28070 28286 28297 28321 28433 28464 28476 28617 28692 29170 29213 29314 29334 29510 29565 29577 29657 29869 29972 30145 30227 30303 30523 30527 30833 30932 30974 31003 31060 31185 31286 31316 31329 3
1426 31556 31998 32170 32270 32609 32702
n=300    Time:0.012000
```



