/Selection Sort /

Code :-

#include <bits/stdc++.h>

using namespace std;

void selectionSort(int arr[], int n)

{

    int i, j, minIndex, temp;

    for (i = 0; i < n - 1; i++)

    {

        minIndex = i;

        for (j = i + 1; j < n; j++)

        {

            if (arr[j] < arr[minIndex])

                minIndex = j;

        }

        swap(arr[minIndex], arr[i]);

    }

}

int main()

{

    while (1)

    {

        int n;

        cout << "Enter the size :- ";

        cin >> n;

        clock\_t start, end;

        start = clock();

        int arr[n];

        srand(time(NULL));

        for (int i = 0; i < n; i++)

            arr[i] = rand();

        selectionSort(arr, n);

        end = clock();

        cout << "Time taken for shorting = " << (end - start) << endl;

    }

    return 0;

}

Output :-

PS C:\Users\ASUS\Desktop\sorting\_codes> cd "c:\Users\ASUS\Desktop\sorting\_codes\Selection\_sort\" ; if ($?) { g++ slectionSort.cpp -o slectionSort } ; if ($?) { .\slectionSort }

Enter the size :- 1000

Time taken for shorting = 3

Enter the size :- 2000

Time taken for shorting = 7

Enter the size :- 3000

Time taken for shorting = 12

Enter the size :- 4000

Time taken for shorting = 22

Enter the size :- 5000

Time taken for shorting = 41

Enter the size :- 6000

Time taken for shorting = 52

Enter the size :- 7000

Time taken for shorting = 65

Enter the size :- 8000

Time taken for shorting = 81

Enter the size :- 9000

Time taken for shorting = 105

Enter the size :- 10000

Time taken for shorting = 127

Enter the size :- 11000

Time taken for shorting = 156

Enter the size :- 12000

Time taken for shorting = 182