**PROGRAM 3-SELECTION SORT**

#include<stdio.h>

#include<stdlib.h>

#include<time.h>

void swap(int \*a, int \*b)

{

  int temp = \*a;

  \*a = \*b;

  \*b = temp;

}

void selectionSort(int arr[], int n)

{

  int i, j, min\_idx;

  for (i = 0; i < n - 1; i++)

  {

    min\_idx = i;

    for (j = i + 1; j < n; j++)

      if (arr[j] < arr[min\_idx])

        min\_idx = j;

    swap(&arr[min\_idx], &arr[i]);

  }

}

int main() {

  int n, i;

  double start, end;

  printf("Enter number of elements : ");

  scanf("%d" , &n);

  int arr[n];

  for (i = 0; i < n; i++) {

    arr[i] = rand()%100;

  }

  start = clock();

  selectionSort(arr, n);

  end = clock();

  for (i = 0; i < n; i++)

  {

    printf("%d\n", arr[i]);

  }

  printf("Time taken by selection sort for %d elements : %f\n", n, ((double)(end - start) / CLOCKS\_PER\_SEC));

  return 0;

}