```c
1   #include<stdio.h>
2   #include<time.h>
3
4   int main()
5   {
6       int a[100],n,i,j,min,temp;
7       clock_t start, end;
8
9       printf("\n Enter the Number of Elements: ");
10      scanf("%d",&n);
11
12      printf("\n Enter %d Elements: ",n);
13      for(i=0;i<n;i++)
14      {
15          scanf("%d",&a[i]);
16      }
17      start=clock();
18      for(i=0;i<800000000;i++);
19      for(i=0;i<n-1;i++)
20      {
21          min=i;
22          for(j=i+1;j<n;j++)
23          {
24              if(a[min]>a[j])
25                  min=j;
26          }
27          if(min!=i)
28          {
29              temp=a[i];
```

```c
    scanf("%d",&a[i]);
}
    start=clock();
    for(i=0;i<800000000;i++);
    for(i=0;i<n-1;i++)
    {
        min=i;
        for(j=i+1;j<n;j++)
        {
            if(a[min]>a[j])
            min=j;
        }
        if(min!=i)
        {
            temp=a[i];
            a[i]=a[min];
            a[min]=temp;
        }
    }
    end=clock();
printf("\n Time taken to sort %d numbers is %f Secs",n, (((double)(end-start))/CLOCKS_PER_SEC));
    printf("\n The Sorted array in ascending order: ");
    for(i=0;i<n;i++)
    {
        printf("%d ",a[i]);
    }
    return 0;
}
```

```
Enter the Number of Elements: 4   I

Enter 4 Elements: 3 6 9 2

Time taken to sort 4 numbers is 1.452107 Secs
The Sorted array in ascending order: 2 3 6 9

...Program finished with exit code 0
Press ENTER to exit console.
```

* Selection - sort

```c
#include <stdio.h>
#include <stdlib.h>
#include <time.h>
void swap (int *a, int *b)
{
int temp = *a;
*a = *b;
*b = temp;
}
void selection sort (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: ");
```

```c
scanf("%d", &n);
int arr[n];
for (i=0; i<n; i++) {
    arr[i] = rand();
}
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-
CLOCKS_PER_SEC));
return 0;
}
```