#include <iostream>

```
#include <algorithm>
using namespace std;
void SelectionSort(int A[], int n){
 int min;
 for(int i = 0; i < n-1; i++){
  min = i;
  for(int j = i+1; j < n; j++){
    if(A[j] < A[min]){
     min = j;
    swap(A[i],A[min]);
 }
}
int main() {
int A[] = \{2, 7, 4, 1, 5, 3\};
SelectionSort(A, 6);
 for (int i = 0; i < 6; i++){
  cout << A[i] << " ";
 cout << endl;
}
 2 7 4 1 5 3
1 2 3 5 4 7
#2
#include <iostream>
#include <algorithm>
#include<cstdlib>
using namespace std;
void BubbleSort(int arr[], int n){
```

```
int flag;
 for(int k = 0; k < n; k++){
  flag = 0;
  for(int i = 0; i < n-k-1; i++){
    if(arr[i] > arr[i+1]){
     swap(arr[i], arr[i+1]);
     flag = 1;
   }
  }
  if(flag == 0){
   break;
  }
}
}
int main() {
 cout << "Unsorted: ";</pre>
 int a[10];
 srand((unsigned) time(NULL));
 for(int i = 0; i < 10; i++){
  a[i] = (rand() \% 10) +1;
 //int a[] = \{1,3,4,10,6,7,5,8,9,2\};
 int n = sizeof(a)/sizeof(a[0]);
 for(int i = 0; i < n; i++){
  cout << a[i] << " ";
 }
 BubbleSort(a, n);
 cout << endl << "Sorted: ";
 for(int i = 0; i < n; i++){
  cout << a[i] << " ";
 }
  Unsorted: 5 1 2 4 7 5 3 9 1 3
  Sorted: 1 1 2 3 3 4 5 5 7 9
#3
#include <iostream>
#include <algorithm>
using namespace std;
```

```
void InsertionSort(int a[], int n){
 for(int i = 1; i < n; i++){
  int value = a[i];
  int hole = i;
  while(hole > 0 && a[hole - 1] > value){
    a[hole] = a[hole-1];
   hole = hole-1;
  a[hole] = value;
}
}
int main() {
 cout << "Unsorted: ";
 int a[10];
 srand((unsigned) time(NULL));
 for(int i = 0; i < 10; i++){
  a[i] = (rand() \% 10) +1;
 }
 //int a[] = \{1,3,4,10,6,7,5,8,9,2\};
 int n = sizeof(a)/sizeof(a[0]);
 for(int i = 0; i < n; i++){
  cout << a[i] << " ";
 }
 InsertionSort(a, n);
 cout << endl << "Sorted: ";
 for(int i = 0; i < n; i++){
  cout << a[i] << " ";
 }
Unsorted: 7 10 8 8 6 10 2 5 9 1
Sorted: 1 2 5 6 7 8 8 9 10 10
```