Date: _____

Code for Bubble Sorting

```
#include <iostream>
using namespace std;
void bubbleSorting (int arr[],int n){
for(int i=0;i<n-1;i++){
for(int j=0;j<n-i-1;j++){
If( arr[j]>arr[j+1]);
{
swap(arr[j],arr[j+1]);
}
}
}
int main(){
int arr[]={11,1,5,4,3,2};
int n=sizeof(arr)/
Sizeof(arr[0]);
cout<<"original array:";
for(int i=0;i<n;i++){
Cout <<arr[i]<<" ";
}
cout <<endl;
bubblesort(arr,n);
Cout<<"Sorted array:";
for( int i=0;i<n;i++){
```

```
cout<<arr[i]<<" ";
}
cout<<endl;
return 0;
}
```

Output-

1,2,3,4,5,11

Selection Sorting

```
#include<iostream>
using namespace std;
void selectionSort
void selectionsort(int arr[], int n){
    for(int i=0;i<n-1;i++){
        int minIdx=i;
    for(int j=i+1;j<n;j++){
     if(arr[j]<arr[minIdx]){
      minIdx=j;
     }
    }
    // swap the found minmum element with th 1st element
    int temp=arr[minIdx];
    arr[minIdx]=arr[i];
     arr[i]=temp;
    }
}
```

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```
void PrintArray (int arr[], int n) {
    for(int i=0; i<n; i++)
    cout<<arr[i]<<" ";
    cout<<endl;
}

int main() {
    int arr[] = {18,12,9,20,15,10,8};
    int n = sizeof(arr)/
    sizeof(arr[0]);
    SelectionSort (arr,n);
    Coutcc "Sorted array using Selection Sort";
    PrintArray (arr,n);
    Return 0;
}
```

Out put:-

8,9,10,12,15,18,20

Insertion Sorting

```
#include <iostream>
Using namespace std;
Void InsertionSort(int arr[], int n) {
```

```
for(int i=0;i<n;i++){
        int key=arr[i];
        int j=i-1;
        // Move elements of arr[0....i-1] that
        are greater that key // to one position
        ahead of their current position.
        while(j>=0 && arr[j]>key){
        arr[j+1]=arr[j];(j--;)
        j--;
    }
    arr[j+1]=key;
}
}
void PrintArray(int arr[],int n){
    for(int i=0;i<n;i++)
    cout<<arr[i]<<" ";
    cout<<endl;
}
int main(){
    int arr[]={18,12,9,20,15,10,8};
    int n=sizeof(arr)/
sizeof(arr[0]);
insertionSort(arr,n);
```

```
cout<< "Sorted array using Insertion Sort:";
PrintArray(arr,n);
return 0;
}
```

Out put:-

9,10,12,15,18,20.