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Reg_no – 2020BIT037

## Assignment No – 3

## 1 ) Selection sort

```cpp
#include<iostream>
using namespace std;
 int main()
 {
     int arr[] = {64,25,12,22,11};
     int n = sizeof(arr)/sizeof(arr[0]);

     for(int i=0;i<n;i++)
     {
         int minIndex=i;
         for(int j=i+1;j<n;j++)
         {
             if(arr[j]<arr[minIndex])
                 minIndex=j;
         }
         swap(arr[minIndex],arr[i]);
     }
     for(int i=0;i<n;i++)
     {
         cout<<arr[i]<<endl;
     }
```

```
 }
PS C:\Users\Sanika\Desktop\DAA> cd "c:\Users\Sanika\Desktop\DAA\" ; if ($?) { g++ selectionsort.cpp -o selectionsort
} ; if ($?) { .\selectionsort }
11
12
22
25
64
PS C:\Users\Sanika\Desktop\DAA> 
```

## 2) Bubble Sort

```cpp
#include<iostream>
using namespace std;

int main()
{
    int arr[] = {10,1,7,6,14,9};
    int n = sizeof(arr)/sizeof(arr[0]);

    for(int i=1;i<n;i++)
    {
        for(int j=0;j<n-1;j++)
        {
            if(arr[j]>arr[j+1])
            {
                swap(arr[j],arr[j+1]);
            }
        }
    }
    for(int i=0;i<n;i++)
    {
        cout<<arr[i]<<endl;
```

```
        }
}
```

```
.\bubble }
1
6
7
9
10
14
PS C:\Users\Sanika\Desktop\DAA> 
```

## 3) Insertion Sort

```cpp
#include<iostream>
using namespace std;

int main()
{
    int arr[] = {10,1,7,4,8,2,11};
    int n = sizeof(arr)/sizeof(arr[0]);

    for(int i=1;i<n;i++)
    {
        int temp = arr[i];
        int j;
        for(j=i-1;j>=0;j--)
        {
```

```cpp
            if(arr[j]>temp)
            {
                arr[j+1]=arr[j];
            }
            else
            {
                break;
            }
        }
    arr[j+1]=temp;
    }
    for(int i=0;i<n;i++)
    {
        cout<<arr[i]<<endl;
    }
}
```

```
1
2
4
7
8
10
11
PS C:\Users\Sanika\Desktop\DAA> 
```