**Algorithm Lab Task-1**

Submission Guidelines-

* Rename the file to your ID only. If your ID is 18-XXXXX-1, then the file name must be 18-XXXXX-1.docx.
* Must submit within the time in Teams.
* Must include resources for all the sections in the table and Uploaded file should be in PDF format.

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| **Question- 1**  Perform Insertion sort algorithms for the given array:  [6,4,2,1,9,8,3,5,12,10,11] |
| **Solution (Do it on paper, and the solution should be attached here):** |
| **Code-**  **#include <iostream>**  **#include<conio.h>**  **using namespace std;**  **int main()**  **{**  **int a[11]={6,4,2,1,9,8,3,5,12,10,11},i,ptr,temp;**  **for(i=1;i<11;i=i+1)**  **{**  **temp=a[i];**  **ptr=i-1;**  **while(temp<a[ptr] && ptr!=-1) // you also can put ptr>=0**  **{**  **a[ptr+1]=a[ptr];**  **ptr--; // you also can put ptr = ptr-1;**  **}**  **a[ptr+1]=temp;**  **}**  **for(i=0;i<11;i=i+1)**  **{**  **cout<<a[i]<<" ";**  **}**  **getch;**  **}** |
| **Output Screenshot-** |

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| **Question- 2**  Perform Selection sort algorithms for the given array:  [4,3,2,10,12,1,5,6] |
| **Solution (Do it on paper, and the solution should be attached here):** |
| **Code-**  **#include <iostream>**  **#include<conio.h>**  **using namespace std;**  **int main()**  **{**  **//input**  **int n;**  **cin>>n;**  **int arr[n];**  **for(int i=0;i<n;i++)**  **{**  **cin>>arr[i];**  **}**  **//selection operation**  **for(int i=0;i<n-1;i++)**  **{**  **for(int j=i+1;j<n;j++)**  **{**  **if(arr[j]<arr[i])**  **{**  **int temp=arr[j];**  **arr[j]=arr[i];**  **arr[i]=temp;**  **}**  **}**  **}**  **//output**  **for(int i=0;i<n;i++)**  **{**  **cout<<arr[i]<<" ";**  **}**  **cout<<endl;**  **getch;**  **}** |
| **Output Screenshot-** |