CS & Programming Lab
Lab Manual 08
Lab Task

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Lab Task #1

/*1. Write a C++ program to calculate average of numbers of array.*/

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


int main()
{
    //Declaring variables and taking inputs
    int n, a[n], avg, sum;
    cout<<"Enter the number of elements : ";
    cin>>n;
    cout<<endl;

    cout<<"Enter the number values\n\n";
    for (int i=0; i<n; i++)
    {
    cout<<"Enter Value #"<<i+1<<" : ";
    cin>>a[i];
    }
```

//Computing and displaying output

for (int i=0; i<n; i++)

{

sum+=a[i];

}

avg=sum/n;

cout<<"The average of numbers of array is "<<avg<<"."<<endl;

}

```
1    /*1. Write a C++ program to calculate average of numbers of array.*/
2
3    #include<iostream>
4    using namespace std;
5
6    int main()
7    {
8        //Declaring variables and taking inputs
9        int n, a[n], avg, sum;
10       cout<<"Enter the number of elements : ";
11       cin>>n;
12       cout<<endl;
13
14       cout<<"Enter the number values\n\n";
15       for (int i=0; i<n; i++)
16       {
17           cout<<"Enter Value #"<<i+1<<" : ";
18           cin>>a[i];
19       }
20       //Computing and displaying output
21       for (int i=0; i<n; i++)
22       {
23           sum+=a[i];
24       }
25       avg=sum/n;
26       cout<<"The average of numbers of array is "<<avg<<"."<<endl;
27   }
```

```
C:\Users\SA\Downloads\ME-15-Sec-A\1st Semester\Courses\C
Enter the number of elements : 5

Enter the number values

Enter Value #1 : 1
Enter Value #2 : 2
Enter Value #3 : 3
Enter Value #4 : 4
Enter Value #5 : 5
The average of numbers of array is 3.

------------------------------
Process exited after 797.9 seconds with return value 0
Press any key to continue . . .
```

Lab Task #2

/*2. Implement Bubble Sort on an array of 5 integers.*/

#include<iostream>

using namespace std;

int main()

{

       //Declaing variables and assigning values

       int tempo, a[5] = {45, 84, 24, 91, 36};

       //Computing bubble sort

       for (int i=0; i<5; i++)

       {

       for (int j=0; j<5; j++)

       {if (a[j+1] < a[j])

       {tempo = a[j];

       a[j] = a[j+1];

       a[j+1] = tempo;}}

       }

       //Displaying output

```
        cout<<"Bubble Sort = ";

        for (int i=0; i<5; i++)

        cout<<a[i]<<" ";

}
```

```cpp
1    /*2. Implement Bubble Sort on an array of 5 integers.*/
2
3    #include<iostream>
4    using namespace std;
5
6    int main()
7    {
8        //Declaing variables and assigning values
9        int tempo, a[5] = {45, 84, 24, 91, 36};
10
11       //Computing bubble sort
12       for (int i=0; i<5; i++)
13       {
14       for (int j=0; j<5; j++)
15       {if (a[j+1] < a[j])
16       {tempo = a[j];
17       a[j] = a[j+1];
18       a[j+1] = tempo;}}
19       }
20
21       //Displaying output
22       cout<<"Bubble Sort = ";
23       for (int i=0; i<5; i++)
24       cout<<a[i]<<" ";
25   }
```

```
C:\Users\SA\Downloads\ME-15-Sec-A\1st Semester\Courses\Com
Bubble Sort = 0 24 36 45 84
--------------------------------
Process exited after 0.04803 seconds with return value 0
Press any key to continue . . .
```

Lab Task #3

/*3. Implement Selection Sort on an array of 5 integers.*/

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

int main()
{
        //Declaring variables and assigning values
        int a[5]={57, 86, 73, 75, 34}, num;

        //Computing result
        for (int i=0; i<5; i++)
        {
        num=a[i];
        for (int j=i; j<5; j++)
        {
        if (num>a[j])
    {
    num = a[j];
    a[j] = a[i];
    a[i] = num;
```

```
}}}

//Displaying output

cout<<"Selection sort : ";

for (int i=0; i<5; i++)

{

cout<<a[i]<<" ";

}

}
```

```cpp
1    /*3. Implement Selection Sort on an array of 5 integers.*/
2
3    #include<iostream>
4    using namespace std;
5
6    int main()
7    {
8        //Declaring variables and assigning values
9        int a[5]={57, 86, 73, 75, 34}, num;
10
11       //Computing result
12       for (int i=0; i<5; i++)
13       {
14       num=a[i];
15       for (int j=i; j<5; j++)
16       {
17       if (num>a[j])
18       {
19       num = a[j];
20       a[j] = a[i];
21       a[i] = num;
22       }}}
23       //Displaying output
24       cout<<"Selection sort : ";
25       for (int i=0; i<5; i++)
26       {
27       cout<<a[i]<<" ";
28       }
29    }
```

```
C:\Users\SA\Downloads\ME-15-Sec-A\1st Semester\Courses\C
Selection sort : 34 57 73 75 86
---------------------------------
Process exited after 0.206 seconds with return value 0
Press any key to continue . . .
```