



CS-114 - Fundamental of Programing

Lab Tasks 8

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**LAB TASK 1:**

1. Generate the Fibonacci sequence using nested loops.

Code:

```
#include <iostream>

using namespace std;

int main()
{
//      LAB TASK 1
    int l; //array length
    float sum;    //sum of all elements
    cout<<"Please enter the array length"<<endl;
    cin>>l;
    int a[l];
    cout<<"Please enter array elements"<<endl;
    for(int i=0; i<l; i+=1){cin>>a[i];}
    for(int j=0; j<l; j+=1){sum = sum + a[j];}
    cout<<"The average of all these elements is: "<<sum/l<<endl;

    return 0;
}
```

Result:

```
Please enter the array length
5
Please enter array elements
34
64
34
89
23
The average of all these elements is: 48.8

-----
Process exited after 6.005 seconds with return value 0
Press any key to continue . . .
```

**LAB TASK 2:**

2. Create Floyd's triangle with nested loops.

Code:

```
#include <iostream>

using namespace std;

int main()
{
//      LAB TASK 2
    int a[5];
    int bub[5];
    int p = 4;
    cout<<"Input the elements: "<<endl;
    for(int i=0; i<5; i+=1){
        cin>>a[i];
    }
    cout<<"The given array is: {";
    for(int c=0; c<5; c+=1){
        cout<<a[c]<<' ';
    }
    cout<<" ";
    for(int z=0; z<5; z+=1){
        for(int j=0; j<5; j+=1){
            if(a[j]>=a[0] && a[j]>=a[1] && a[j]>=a[2] && a[j]>=a[3] && a[j]>=a[4]){
                bub[p]=a[j]; a[j]=0; p=p-1;
            }
            else{continue;}
        }
        if(a[0]==0 && a[1]==0 && a[2]==0 && a[3]==0 && a[4]==0){break;}
    }
    cout<<"The bubble sorted array is: {";
    for(int b=0; b<5; b+=1){
        cout<<bub[b]<<' ';
    }
    cout<<" ";
    return 0;
}
```

Result:

```
Input the elements:
7
24
832
3
90
The given array is: {7 24 832 3 90 }The bubble sorted array is: {3 7 24 90 832 }
-----
Process exited after 6.146 seconds with return value 0
Press any key to continue . . .
```

**LAB TASK 3:**

3. Write a program using break or continue statement that only adds prime numbers from 1 to 50 and display the sum on screen.

Code:

```
#include <iostream>

using namespace std;
int main()
{
//      LAB TASK 3
    int u[5];
    int min=0;
    cout<<"Input the elements: "<<endl;
    for(int i=0; i<5; i+=1){cin>>u[i];}
    cout<<"The given array is: {";
    for(int j=0; j<5; j+=1){cout<<u[j]<<' ';}
    cout<<"}"<<endl;;
    min=u[0];

    for(int i=0;i<5;i++){
        min=u[i];
        for(int j=i; j<5; j++){
            if (min>u[j]){
                min = u[j];
                u[j]=u[i];
                u[i]=min;
            }
        }
    }
    cout<<"The selection sorted array is: {";
    for(int b=0; b<5; b+=1){cout<<u[b]<<' ';}
    cout<<"}"<<endl;
    return 0;
}
```

Result:

```
Input the elements:
5
39
23
8
32
The given array is: {5 39 23 8 32 }
The selection sorted array is: {5 8 23 32 39 }

-----
Process exited after 5.538 seconds with return value 0
Press any key to continue . . .
```