

CS-114 - Fundamental of Programing

Lab and Home Tasks - 6 (Lab Manual 6)

Course Instructor: Dr Jawad Khan

Lab Instructor: Muhammad Affan

Student Name: Ahmed Adil Hussain

CMS ID: 477537

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LAB TASK 1:

1. Generate the Fibonacci sequence using nested loops.

Code:

```
#include <iostream>
     using namespace std;
     int main()
5 -
         LAB TASK 1
          int t;
          int x=1;
          int p=1;
          int s;
10
         cout<<"Please enter the number of terms"<<endl;</pre>
11
         cin>>t;
12
          for(int i=0; i<=t; i+=1){
13 -
14
              for(int j=1; j<=i; j+=1)
15
              s=p + x;
              cout<<x+s<<" ";
17
              p=x;
18
              X=5;
19
20
          return 0;
```

Result:



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LAB TASK 2:

2. Create Floyd's triangle with nested loops.

Code:

```
#include <iostream>
      using namespace std;
      int main()
5 -
          LAB TASK 2
          int r;
          int n = 1;
          cout<<"Please enter the number of rows"<<endl;</pre>
10
          for(int i=0; i<r; i+=1){
11
               for(int j=0; j<=i; j+=1){
cout<<n<<" ";
12 -
13
14
                   n=n+1;
15
16
               cout<<endl;
17
18
          return 0;
19
```

Result:



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HOME TASK 1:

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

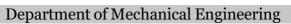
Code:

```
#include <iostream>
      using namespace std;
      int main()
 5 -
 6
           HOME TASK 1
           int sum;
8
           for(int i=2; i<=50; i+=1){
                for(int j=2; j<=i; j+=1){
  if(i%j==0 && j==i){sum = sum+i; break;}</pre>
9
10
11
                if(i%j==0){break;}
12
13
           cout<<"The sum of all prime numbers from 0-50 is: "<<sum<<endl;</pre>
14
15
           return 0;
16
```

Result:

```
The sum of all prime numbers from 0-50 is: 328

------
Process exited after 0.1418 seconds with return value 0
Press any key to continue . . .
```





HOME TASK 2:

2. Write a program in C++ to create the following pattern.

Code:

```
#include <iostream>
      using namespace std;
      int main()
5 -
         HOME TASK 2
          int r;
          cout<<"Please enter the number of rows."<<endl;</pre>
          cin>>r;
           for(int i=1; i<=r; i+=1){
               for(int j=1; j<=i; j+=1){
cout<<j<<" ";}
12
13
               cout << endl;
14
15
          return 0;
16
```

Result:

```
Please enter the number of rows.
5
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
```

1 2

1

1 2 3

1234

1 2 3 4 5



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HOME TASK 3:

3. Write a C++ program to print:

Code:

```
#include <iostream>
       using namespace std;
       int main()
 5 🖳
           HOME TASK 3
            int rows;
cout<<"Please enter the number of rows."<<endl;</pre>
 9
            cin>>rows;
10
            cout<<1<<endl;
            for(int i=1; i<rows; i+=1){
   for(int j=1; j<=2*i; j+=1){
    cout<<2*i<<" ";}</pre>
11
12
13
14
                 cout<<endl;
15
16
            return 0;
17
```

Result:

```
Please enter the number of rows.
5
1
2 2
4 4 4 4
6 6 6 6 6 6
8 8 8 8 8 8 8 8
```

2 2

1

4444

666666