

# CS-114 - Fundamental of Programing

Lab and Home Tasks - 6 (Lab Manual 6)

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## Department of Mechanical Engineering

#### 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;
10
          int s;
11
          cout<<"Please enter the number of terms"<<endl;</pre>
12
          cin>>t;
13
          for(int i=0; i<t; i+=1){
14
              for(int j=1; j<=i; j+=1)
15
              s=p + x;
16
              cout<<x+s<<" ";
17
              p=x;
18
              x=5;
19
20
          return 0;
21
```

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#### **LAB TASK 2:**

2. Create Floyd's triangle with nested loops.

#### **Code:**

```
#include <iostream>
2
      using namespace std;
      int main()
5 -
         LAB TASK 2
          int r;
          int n = 1;
          cout<<"Please enter the number of rows"<<endl;
9
          cin>>r;
10
           for(int i=0; i<r; i+=1){
11 -
               for(int j=0; j<=i; j+=1){
    cout<<n<<" ";</pre>
12 -
13
14
15
                   n=n+1;
16
               cout<<endl;
17
18
          return 0;
19
```



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#### **HOME TASK 1:**

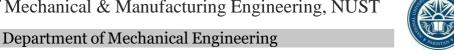
1. Write a program using break or continue statement that only adds prime numbers from 1 to 50 and display the sum on screen.

#### **Code:**

```
#include <iostream>
      using namespace std;
4
      int main()
5 -
           HOME TASK 1
6
           int sum;
           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;}
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
```

```
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 . . .
```





1

12

123

1234

12345

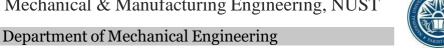
# **HOME TASK 2:**

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

#### **Code:**

```
#include <iostream>
      using namespace std;
      int main()
 5 -
 6
          HOME TASK 2
          int r;
          cout<<"Please enter the number of rows."<<endl;</pre>
8
9
           for(int i=1; i<=r; i+=1){
10
               for(int j=1; j<=i; j+=1){
cout<<j<<" ";}
12
13
               cout << endl;
14
15
          return 0;
16
```

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





## **HOME TASK 3:**

3. Write a C++ program to print:

#### **Code:**

```
1
      #include <iostream>
      using namespace std;
 4
      int main()
5 🖳
          HOME TASK 3
           int rows;
          cout<<"Please enter the number of rows."<<endl;</pre>
           cin>>rows;
           cout<<1<<endl;
10
           for(int i=1; i<rows; i+=1){</pre>
11 -
               for(int j=1; j<=2*i; j+=1){
cout<<2*i<<" ";}
12 🗀
13
               cout<<endl;
14
16
           return 0;
```

# **Result:**

```
Please enter the number of rows.
5
1
2 2
4444
6 6 6 6 6
8 8 8 8 8 8 8
```

1 22 4444

666666