

## Lab Task Week 12

- Plagiarized tasks will be awarded zero marks.
  - There will be deduction for late submission.
  - Use meaningful variable names instead of a, b, c, x, y, z.
  - Use proper indentation.
  - Your programs should satisfy all the requirements mentioned in the description or discussed in lab.
  - Grading will also be based on your lab performance, better to complete tasks in lab.
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- Write a program in which user will enter a no of his choice and the program will display the sum of factorials till that no.  
Means if the user enters 5, the program should calculate the following  
**1! + 2! + 3! + 4! + 5!**  
And display the output in the following manner.

Sample Output:

```
Enter a no: 5
1! = 1
2! = 2
3! = 6
4! = 24
5! = 120
Sum: 153
```

- Write a C program to construct the following pattern, using a nested loop.

```
How many rows? 5
 *
 **
 ***
 ****
 *****
```

- Write a C program to construct the following pattern, using a nested loop. Take the no of rows from user.

```
How many rows? 10
10 9 8 7 6 5 4 3 2 1
10 9 8 7 6 5 4 3 2
10 9 8 7 6 5 4 3
10 9 8 7 6 5 4
10 9 8 7 6 5
10 9 8 7 6
10 9 8 7
10 9 8
10 9
10
```

- Write a C function to construct the following pattern, using a nested for loop. User should enter a symbol e.g \*,^,@,- etc, and your function should a pattern like this of that symbol

```
Enter a char: @
How many rows? 5
@ @ @ @ @
@ @ @ @
@ @ @
@ @
@
```

- Write a C program that takes an integer from user and print a half diamond pattern using nested loops.

Here the no from the user is the no of row after which the pattern will start to invert.

Enter a no: 5

```
*  
**  
***  
****  
*****  
*****  
****  
***  
**  
*
```