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C Program to Print Star Pattern - 1

In this tutorial, we will write a program print star pattern in C language. An example program is shown below

```
#include<stdio.h>
int main(){
   int n;
   printf("Enter the value of n\n");
   scanf("%d", &n);

   // Run this for loop n times
   for (int i = 0; i < n; i++)
   {
        // Print (i+1) stars
        for (int j = 0; j < i+1; j++)
        {
            printf("*");
        }
}</pre>
```

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```
}
    printf("\n");
}
return 0;
}
```

Code Snippet 1: Factorial iterative program

As shown in a code snippet 1,

- 1. In the main program, we have declared an integer variable "n" this variable will be used to store user input.
- 2. The "printf" function is used to print "Enter the value of n"; and "scanf" function will take input from the user at run time.
- 3. We have used nested "for" loop; in the first "for" loop the value of the variable "i" is "0" and the condition is that this loop will run till the value of "i" is smaller than the value "n" which user has input; in the second for loop, the value of "j" is "0" and the condition is that this loop will run and keep printing the "*" till the value of "j" is smaller than the value of "i+1".
- 4. For example, if the user inputs the value 3:
- 5. then in outer loop first iteration the value of "i" will be "0", so in the inner loop the value of "j" is "0" and "i+1" will be "1" so inner loop will print "*" only 1 time;
- 6. In the next iteration of the outer loop the value of "i" will become "1", so in the inner loop the value of "j" will be "1" and "i+1" will be "2" so inner loop will print "*" 2 times;
- 7. In the next iteration of the outer loop the value of "i" will become "2", so in the inner loop the value of "j" will be "2" and "i+1" will be "3" so inner loop will print "*" 3 times:
- 8. In the next iteration of the outer loop, the value of "i" will become "3" which will be not smaller than the value 3 so the "for" loop will terminate.

The output of the following program is shown below

```
Enter the value of n

4

*

**

***
```

Figure 1: Program Output

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