ASSIGNMENTS ON LOOP

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1. Write a program in C to display the pattern like right angle triangle using an asterisk as follows:

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

2. Write a program in C to display the pattern as follows:

```
1
12
123
1234
```

3. Write a program in C to display the pattern as follows:

```
1
22
333
4444
```

4. Write a program in C to display the pattern as follows:

```
1
2 3
4 5 6
7 8 9 10
```

5. Write a program in C to display the pattern as follows:

```
   1
  2 3
 4 5 6
7 8 9 10
```

6. Write a program in C to display the pattern as follows:

```
   1
  2 2
 3 3 3
4 4 4 4
```

7. Write a program in C to display the pattern (Floyd's Triangle) as follows:

```
1
01
101
0101
10101
```

8. Write a program in C to display the pattern as follows:

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

9. Write a program in C to display the pattern (Pascal Triangle) as follows:

```
        1
      1   1
    1   2   1
  1   3   3   1
1   4   6   4   1
```

10. Write a program in C to display the pattern as follows:

Here the integer n must be taken from the standard input device.

```
For n=1

1

For n=2

  1
1 2 1
  1

For n=3

    1
  1 2 1
1 2 3 2 1
  1 2 1
    1
```
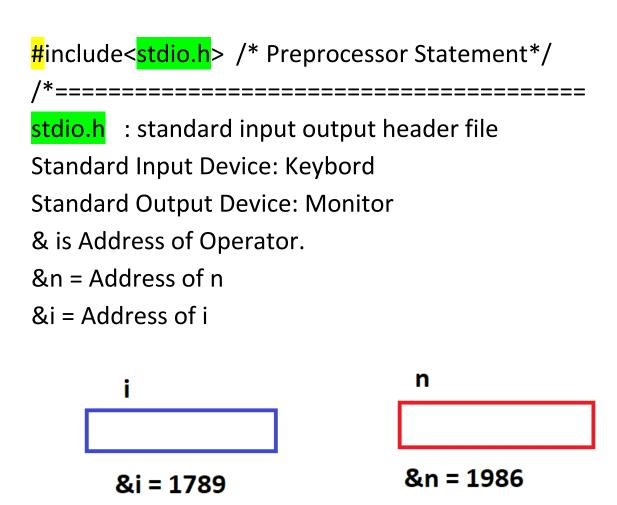
#include<stdio.h> /* Preprocessor Statement*/

/*=======================================

stdio.h   : standard input output header file

Standard Input Device: Keybord

Standard Output Device: Monitor

& is Address of Operator.

&n = Address of n

&i = Address of i

i

n

&i = 1789

&n = 1986

=======================================*/

```c
void  main()
{
    int   i,n;
    printf("\n Enter the no. of lines:");
    scanf("%d",&n);
   /* i : a loop counter */
    for(i=0; i<n; i++)
     {
        printf("\n India");
        printf(" West Bengal");
     }
}
/* ==========================================
Two types of functions:
1. Standard Library Function: Examples  : scanf, printf
their definition is written in stdio.h
2. User Defined Function: No user defined function
used in this program.
scanf:    Scan the input from the standard input device
according to given format.
printf:    Print according to given format.
'\n':  New line character.
=================================*/
```

Output:

Enter the no. of lines: 3

India West Bengal

India West Bengal

India West Bengal

n=3

1. Initialisation of counter

2. Condition Checking

for (i=0; i<n; i++)

4. Changing counter

{

If True

printf("\n India");   /*Task 1*/

printf (" West Bengal");   /*Task 2*/

}

If False

3. Execution of the body of the for loop