

## ASSIGNMENT NO 4

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ROLL NO :- 2K20/B17/33

### THEORY

**Nesting of loops** is the feature in **C** that allows the **looping** of statements inside another **loop**.

...

**The nested 'for' loop means any type of loop which is defined inside the 'for' loop.**

- for (initialization; condition; update)
- {
- for(initialization; condition; update)
- {
- // inner **loop** statements.
- }
- // outer **loop** statements.
- }

#### *Standard for Loop*

The **syntax** of the **for** loop is:

```
for (initializationStatement; testExpression; updateStatement)
{
    // statements inside the body of loop
}
```

## Q1

```
#include <stdio.h>

int main()
{ int i ,j,n;
printf("ENTER THE NO OF ROWS BY THE USER \n");
scanf("%d",&n);
printf("\n");
for(i=n;i>=1;i--)// OUTER FOR LOOP
{ for(j=1;j<=i;j++)// INNER FOR LOOP
{
    printf("%d ",i);
}
printf("\n");
}

    return 0;
}
```

```

1  /*****
2
3  Welcome to GDB Online.
4  GDB online is an online compiler and debugger tool for C, C++, Python, PHP, Ruby,
5  C#, VB, Perl, Swift, Prolog, Javascript, Pascal, HTML, CSS, JS
6  Code, Compile, Run and Debug online from anywhere in world.
7
8  *****/
9  #include <stdio.h>
10
11  int main()
12  { int i ,j,n;
13    printf("ENTER THE NO OF ROWS BY THE USER \n");
14    scanf("%d",&n);
15    printf("\n");
16    for(i=n;i>=1;i--)// OUTER FOR LOOP
17    {for(j=1;j<=i;j++)// INNER FOR LOOP
18    {
19        printf("%d ",i);
20    }
21    printf("\n");
22 }
23
24     return 0;
25 }

```

ENTER THE NO OF ROWS BY THE USER

5

5 5 5 5 5

4 4 4 4

3 3 3

2 2

1

...Program finished with exit code 0

Press ENTER to exit console.

## Q2

```
#include <stdio.h>

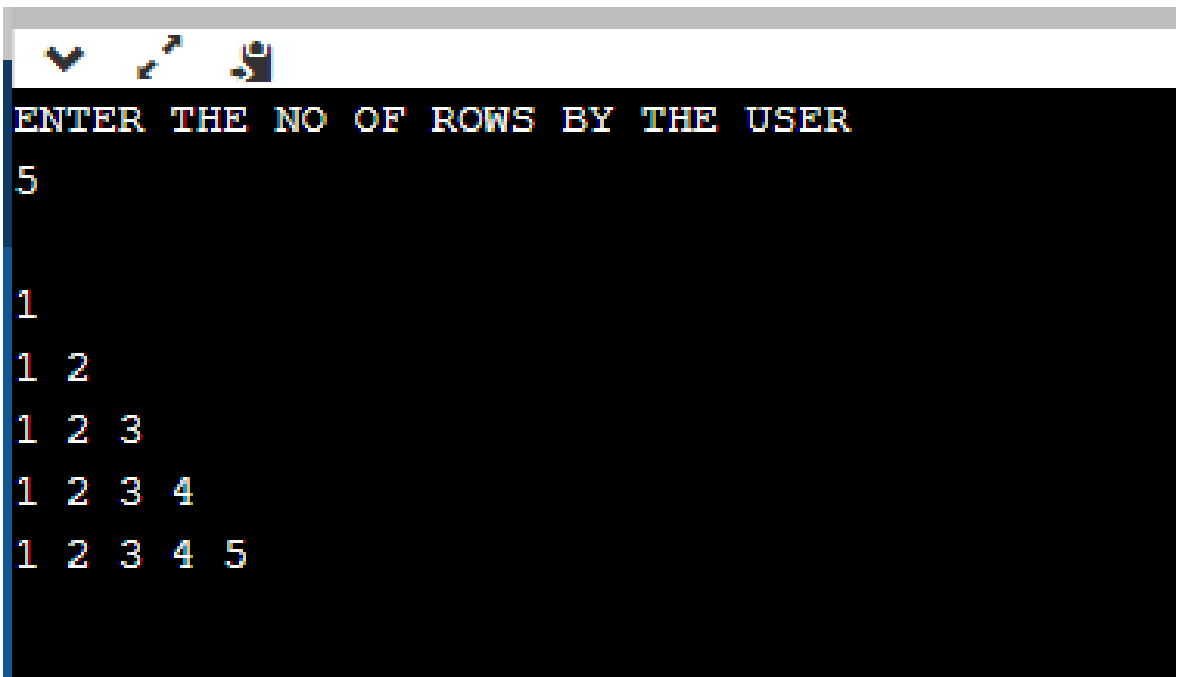
int main()
{ int i ,j,n;
printf("ENTER THE NO OF ROWS BY THE USER \n");
scanf("%d",&n);
printf("\n");
for(i=1;i<=n;i++)// OUTER LOOP
{ for(j=1;j<=i;j++)// INNER LOOP
{
    printf("%d ",j);
}
printf("\n");
}

return 0;
}
```

```

1- 1- /******
2
3 2 Welcome to GDB Online.
4 3 GDB online is an online compiler and debugger tool for C, C++, Python, PHP, Ruby,
5 4 C#, VB, Perl, Swift, Prolog, Javascript, Pascal, HTML, CSS, JS
6 5 Code, Compile, Run and Debug online from anywhere in world.
7
8 6 *****/
9 7 #include <stdio.h>
10
11 8 int main()
12 9 { int i ,j,n;
13 10 printf("ENTER THE NO OF ROWS BY THE USER \n");
14 11 scanf("%d",&n);
15 12 printf("\n");
16 13 for(i=1;i<=n;i++)// OUTER LOOP
17 14 {for(j=1;j<=i;j++)// INNER LOOP
18 15 {
19 16     printf("%d ",j);
20 17 }
21 18 printf("\n");
22 19 }
23
24 20 return 0;
25 21 }

```



```

ENTER THE NO OF ROWS BY THE USER
5

1
1 2
1 2 3
1 2 3 4
1 2 3 4 5

```

