ASSIGNMENT NO 4

SUBMITTED BY : **PARTH JOHRI**

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

```c
#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;
}
```

```c
/*********************************************************************

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{for(j=1;j<=i;j++)// INNER FOR LOOP
{
    printf("%d ",i);
}
printf("\n");
}

    return 0;
}
```

```
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.
```
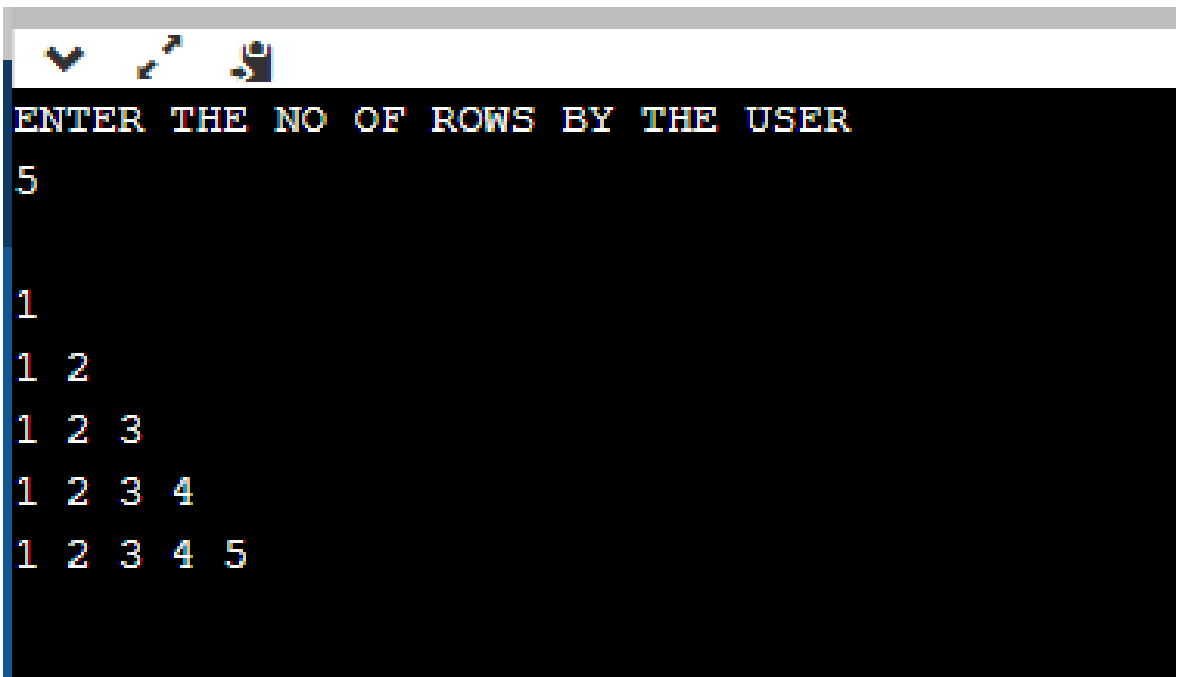
Q2

```c
#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;
}
```

```c
/***********************************************************************

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{for(j=1;j<=i;j++)// INNER LOOP
{
    printf("%d ",j);
}
printf("\n");
}

    return 0;
}
```

```
ENTER THE NO OF ROWS BY THE USER
5

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