

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
}
```

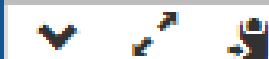
Q1

```
#include <stdio.h>

int main()
{ int i ,j;
for(i=5;i>=1;i--)// OUTER FOR LOOP
{for(j=1;j<=i;j++)// INNER FOR LOOP
{
    printf("%d ",i);
}
printf("\n");
}
    return 0;
}
```

main.c

```
1  /*****
2
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7
8  *****/
9  #include <stdio.h>
10
11  int main()
12  { int i ,j;
13    for(i=5;i>=1;i--)// OUTER FOR LOOP
14    {for(j=1;j<=i;j++)// INNER FOR LOOP
15    {
16        printf("%d ",i);
17    }
18    printf("\n");
19  }
20
21    return 0;
22  }
```



```
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;
for(i=1;i<=5;i++)// OUTER LOOP
{ for(j=1;j<=i;j++)// INNER LOOP
{
    printf("%d ",j);
}
printf("\n");
}
    return 0;
}
```

```
1  /*****
2
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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;
13    for(i=1;i<=5;i++)// OUTER LOOP
14    {for(j=1;j<=i;j++)// INNER LOOP
15    {
16        printf("%d ",j);
17    }
18    printf("\n");
19  }
20
21    return 0;
22  }
```

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

...Program finished with exit code 0
Press ENTER to exit console. □
```