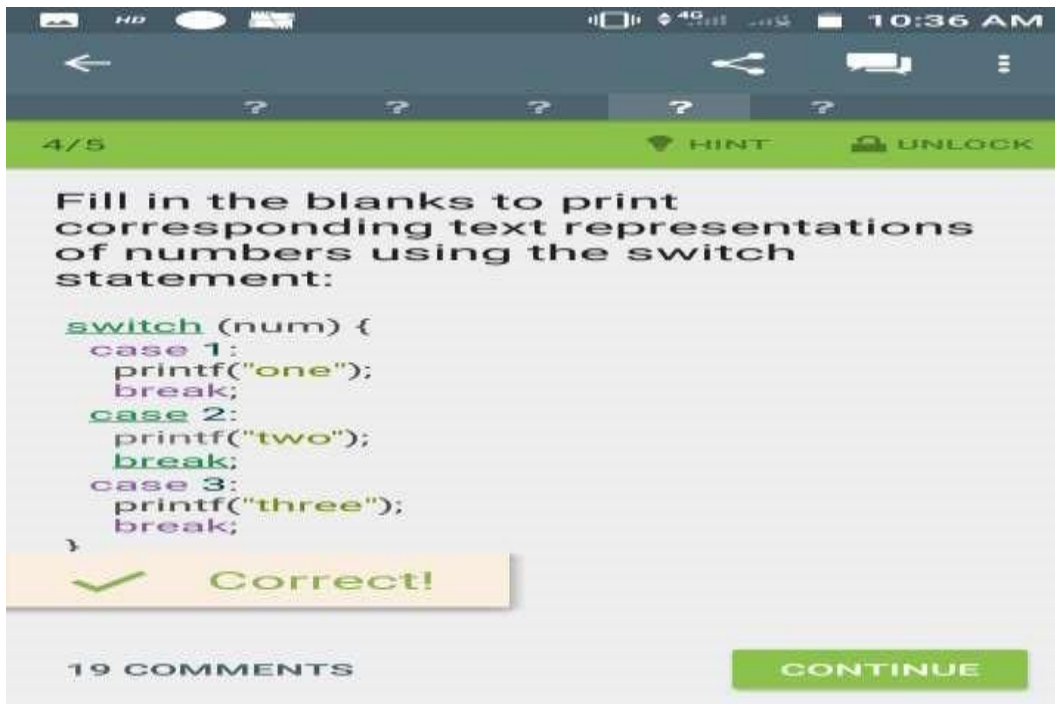


DAILY ASSESSMENT FORMAT

Date:	18-06-2020	Name:	Poorvi j gowda
Course:	Solo learner	USN:	4AL17EC071
Topic:	C programming	Semester & Section:	6TH b
Github Repository:	Poorvi-2000		

FORENOON SESSION DETAILS

Image of session



Report – Report can be typed or hand written for up to two pages.

Basic concept of c

C is a procedural programming language. It was initially developed by Dennis Ritchie as a system programming language to write operating system. The main features of C language include low-level access to memory, simple set of keywords, and clean style, these features make C language suitable for system programming like operating system or compiler development.

C – for loop in C programming with example

A loop is used for executing a block of statements repeatedly until a given condition returns false.

C For loop

This is one of the most frequently used loop in C programming.

Syntax of for loop:

```
for (initialization; condition test; increment or decrement)
{
    //Statements to be executed repeatedly
}
```

Flow Diagram of For loop

Step 1: First initialization happens and the counter variable gets initialized.

Step 2: In the second step the condition is checked, where the counter variable is tested for the given condition, if the condition returns true then the C statements inside the body of for loop gets executed, if the condition returns false then the for loop gets terminated and the control comes out of the loop.

Step 3: After successful execution of statements inside the body of loop, the counter variable is incremented or decremented, depending on the operation (++ or --).

Example of For loop

```
#include <stdio.h>
int main()
{
    int i;
    for (i=1; i<=3; i++)
    {
        printf("%d\n", i);
    }
    return 0;
}
```

Output:

```
1
2
3
```

Various forms of for loop in C

I am using variable num as the counter in all the following examples –

1) Here instead of num++, I'm using num=num+1 which is same as num++.

```
for (num=10; num<20; num=num+1)
```

2) Initialization part can be skipped from loop as shown below, the counter variable is declared before the loop.

```
int num=10;
```

```
for (;num<20;num++)
```

Note: Even though we can skip initialization part but semicolon (;) before condition is must, without which you will get compilation error.

3) Like initialization, you can also skip the increment part as we did below. In this case semicolon (;) is must after condition logic. In this case the increment or decrement part is done inside the loop.

```
for (num=10; num<20; )  
{  
    //Statements  
    num++;  
}
```

4) This is also possible. The counter variable is initialized before the loop and incremented inside the loop.

```
int num=10;  
for (;num<20;)  
{  
    //Statements  
    num++;  
}
```

5) As mentioned above, the counter variable can be decremented as well. In the below example the variable gets decremented each time the loop runs until the condition num>10 returns false.

```
for(num=20; num>10; num--)
```

Nested For Loop in C

Nesting of loop is also possible. Lets take an example to understand this:

```
#include <stdio.h>  
int main()  
{  
    for (int i=0; i<2; i++)  
    {  
        for (int j=0; j<4; j++)  
        {  
            printf("%d, %d\n",i ,j);  
        }  
    }  
    return 0;  
}
```

Output:

0, 0
0, 1
0, 2
0, 3
1, 0

1, 1
1, 2
1, 3

In the above example we have a for loop inside another for loop, this is called nesting of loops. One of the example where we use nested for loop is [Two dimensional array](#).

Multiple initialization inside for Loop in C

We can have multiple initialization in the for loop as shown below.

```
for (i=1,j=1;i<10 && j<10; i++, j++)
```

What's the difference between above for loop and a simple for loop?

1. It is initializing two variables. Note: both are separated by comma (.).
2. It has two test conditions joined together using AND (&&) logical operator. Note: You cannot use multiple test conditions separated by comma, you must use logical operator such as && or || to join conditions.
3. It has two variables in increment part. **Note:** Should be separated by comma. **Example of for**

