**DOUBT 1:**

So, this is little different from normal for loops but not that hard to understand.

So basically, here we are performing loop upon a binary operation….

Let’s, see how: -

Here i is initialized to 1024;

And the for-loop condition is:

for(; i; i>>=1)

As i is already initialized so the first part of for loop which is initialization is left empty. Now second part is the conditional clause i; this means we have to run the loop as long as i not equal to zero (i!=0). Then we are performing updation which is in form of right shift operator. So basically, in i>>=1 we are performing right shift one time on the number until we reach the end of condition.

To perform this binary operation let’s consider its binary representation;

1024 can be represented as:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

On one right shift operation we shift every bit to right once, so now the number becomes 1024/2 = 512, and its represented as:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

So, we have to perform this operation until we satisfy the condition i.e., until 1 reaches the last binary place and becomes out of bounds.. Therefore, in total we have to perform 11 operations until 1 reaches the last binary place.

**DOUBT 2:**

**It is related to syntax.**

**In c = a, b;**

**Just remember right operand of comma operator has no effect and is treated as unused value.**

**In d = (a, b);**

**Left operand of comma operator has no effect .**