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| **Started on** | Wednesday, 13 August 2025, 10:46 AM |
| **State** | Finished |
| **Completed on** | Wednesday, 13 August 2025, 10:59 AM |
| **Time taken** | 13 mins 18 secs |
| **Marks** | 1.00/1.00 |
| **Grade** | **10.00** out of 10.00 (**100**%) |

## Question 1 | Correct Mark 1.00 out of 1.00

Convert the following algorithm into a program and find its time complexity using counter method.

```
void function(int n)
{
    int c= 0;
    for(int i=n/2; i<n; i++)
        for(int j=1; j<n; j = 2 * j)
            for(int k=1; k<n; k = k * 2)
                c++;
}
```

**Note:** No need of counter increment for declarations and scanf() and count variable printf() statements.

**Input:**

A positive Integer n

**Output:**

Print the value of the counter variable

### Answer:

```
#include <stdio.h>

int cc;
void function(int n)
{
   cc++;
   cc++;
```

```
    for(int i=n/2; i<n; i++){
        cc++;
        cc++;
        for(int j=1; j<n; j = 2 * j){
            cc++;
            cc++;
            for(int k=1; k<n; k = k * 2){
                cc++;
                cc++;
            }
        }
    }
}

int main(){
    int a;
    scanf("%d",&a);

    function(a);
    printf("%d\n",cc);
}
```

| | Input | Expected | Got | |
|---|---|---|---|---|
| ✔ | 4 | 30 | 30 | ✔ |
| ✔ | 10 | 212 | 212 | ✔ |

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

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