

## FINDING TIME COMPLEXITY OF ALGORITHMS

### PROBLEM 4:

#### Finding Complexity using Counter Method

##### AIM:

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++;
}
```

##### CODE:

```
#include<stdio.h>

int main(){

    int count=0;

    int n;

    scanf("%d",&n);

    int c= 0;

    count++;

    for(int i=n/2; i<n; i++){

        count++;

        for(int j=1; j<n; j = 2 * j){
```

```
count++;

for(int k=1; k<n; k = k * 2){
    c++;
    count++;
    count++;
}count++;
}count++;
}count++;
printf("%d",count);
}
```

INPUT:

4	10
---	----

OUTPUT:

30	212
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