**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