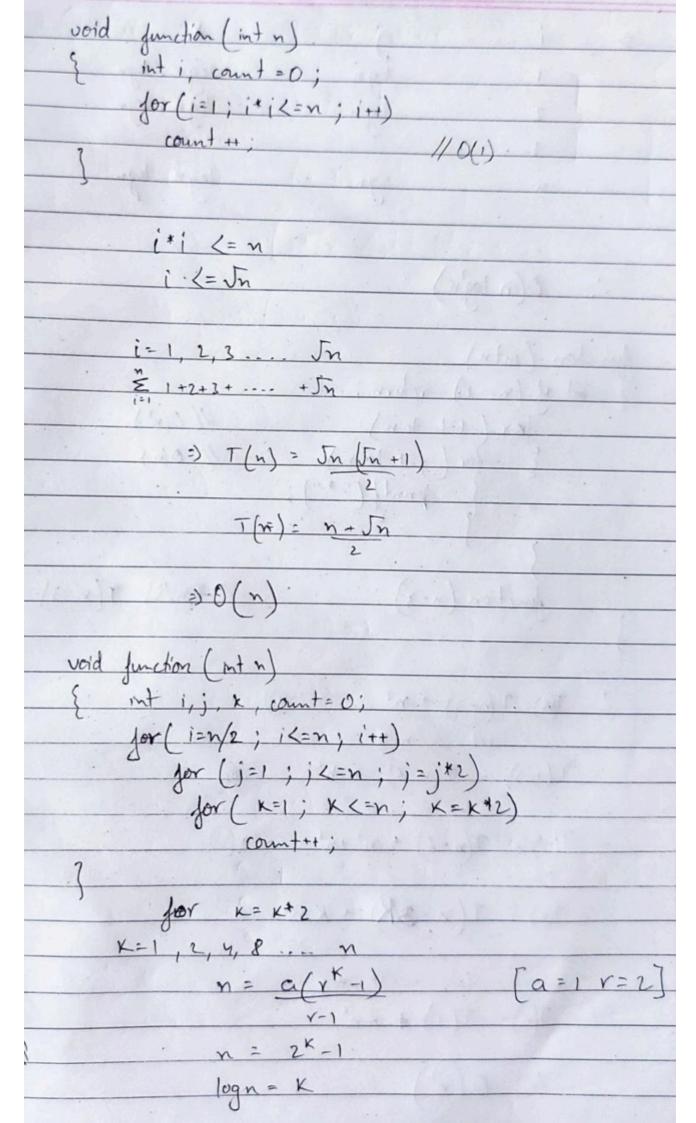
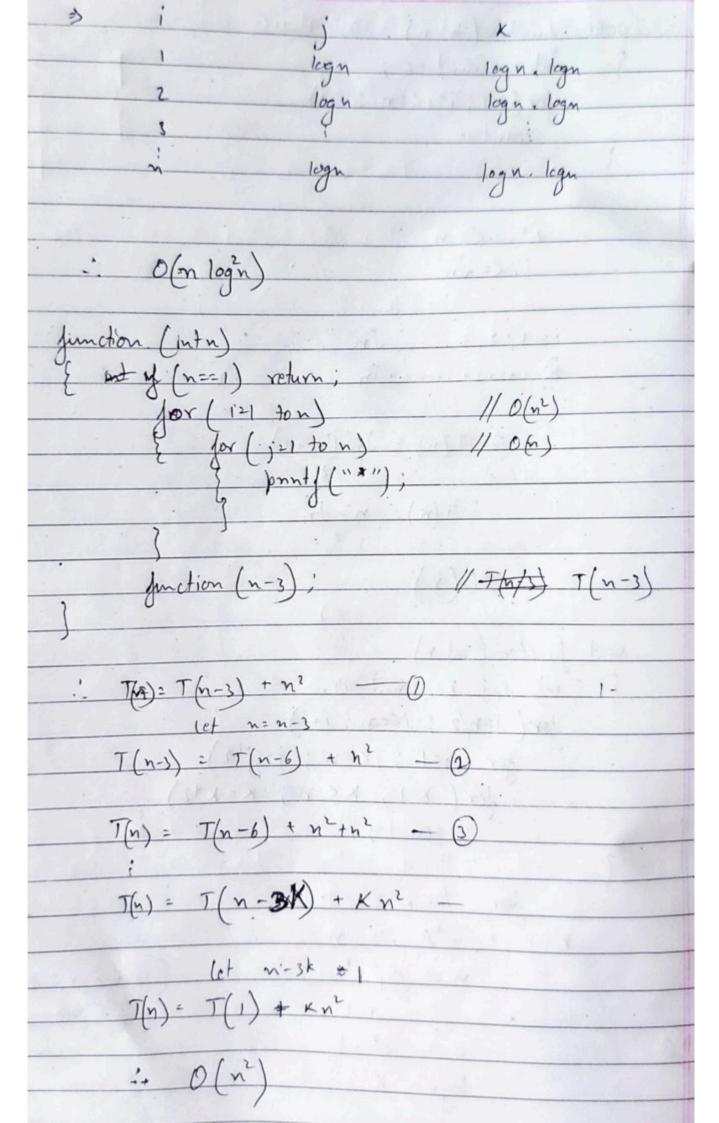


```
T(n)= { = 3T(n-1) if n>0, otherwise 1}
        7(1)= 3
     T(n) = 3T(n-1) — (D)
     T(n-1) = 3T(n-2) - 0
       T(n) = 3(3T(n-2)) = 3^{2}(T(n-2))
        Th) = 3 (Th-n) = 3 T(0) -
      .. 0(3")
T(n) = { 2T(n-1)-1 if n>0, otherwise 1}
       T(n) = 2T(n-1)-1 — 0
      T(n-1) = 2T(n-2) - 1 - 0
From (D & 6)
      T(n) = 2(2T(n-2)+1)-1
      T(n)= 22T(n-2)-2-1 - 3
       T(n)= 2 T(n-K) - (2x-1)
            let KER MK = 1 Let K= n
       T(x) = 2^{n} T(x) - 2^{n} + 1 T(x) = 2^{n} T(x) - 2^{n} + 1 = 2^{n} - 2^{n} + 1
                        => 0(1)
```

Time complexity
mt i=1, s=1;
while (s <= n) {
i++, \$6 5= 5+i;
prints ("#");
i(1500) 12 5 (150) 12) 15 1
1 = 1
2 1+2 = 3
3 1+2+3 = 6
n (MA) C
T(K) = 1+2+3+ K
2) (K+1)
for riteration
1+2+3+ K <=n
The second of the factor of
>> K(K+1) (=n
7 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
=> K ² + k <= h
2
=) O(k) < = n
The second of the second of the
$K = O(J_n)$
Belleville Belleville
2) O(In)





For the function, n'k and c'n, who relationship b/s those functions? Assume that W=1 and c>1 are the value of c and no for which os given nk and ch.
relation bet nk & ch $n^{x} = O(c^{n})$ as $n^{x} \leq ac^{n}$ $\forall n > n_{0} \text{ and } sc$ for no=1 =) 1 × ≤ a 2' $n_0 = 1$ c = 2