Tulosial-2

i) talkat is the time complexity of below code & how.

TO 8 8 76

0, 14 12 4 84 the -1 =

Void fon (int n)

int j=1; i=0;

While (ix 8) ;

j + + ; 4

7

Time complexity - 0(97+ n)

rst-time i =)

2nd +1mx i- 3 (i= 1+2)

3rd time i=6 (i=1+2+3).

 n^{th} + $i \cdot mc$ $i = \chi(\chi + 1) = \chi^2 < 0$

x = sq + (0)

2) Write recurrence relation for the recursive function that Prints Fibonacci series. solve the recurrence relation Toget champlexity of the program what will the space complexity

3 utrite programs which have complexity -nlogn), no, Logling sol : - noverge sort - mlogn. - too teme complexity - no can use three rested loops - 0 (n3) for (int i=0; i < n; i++) for (int j=0; j x n; j++). for (:nt le =0; K×n; K++) some o(1) expressions. => for terme complexity - log(logn) We can use the following function for (int i=2; i < n; i= pow(i,c) 11 some o(i) expressions

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Deduce the following recurrence relation T(n)=T(n/4)+T(n/2)+on T(n) = T(n/4)+T(n/2)+on
      -T(m) = 27(n/2) + cn2
      using masters method 7(n) = at(n/b) + f(n)
        azi, b>1, c= logba comparing of & fin)
              F(n) > 5
              T(0)=0(f(0)
 1 what is the time complexity of the following function.
       for ( :nt i=1 ; i <= n ; i++)
           for (int j=1; j < n) i+ = 1
             1 11 some out task 44.
(sur for i=1-) i=1)2,314--- n (sun for n +imes)
   for i=2-) j= 113,5 ---- ( sun for n/2 têmes)
                                   ( men for ml3 times)
      tor i= 3 ->j = 1,4,7 - --
    (=T(n)= n+n/2+n/3+n/4+---
             011+1/2+1/3+1/4+----)
```