Type	Name	No. of bytes
Parameter: integer	n	4
return address		4.
Total per recursive call		8.

If n = MAX_SIZE, the total variable space reqd. for the recursive version is **8 * MAX_SIZE**

2) Determine the space complexity of the iterative and recursive Fibonacci number functions created in Exercise 8, Section 1.3

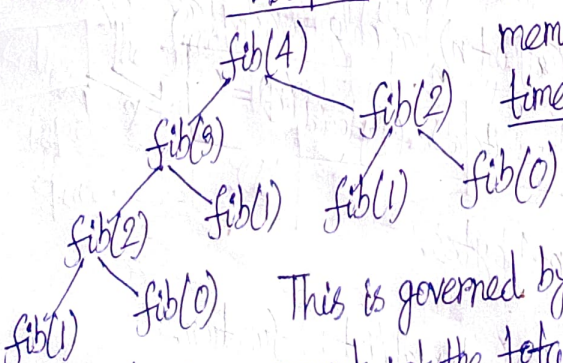
Soln: The iterative_nthFibonacci(int n) function has input variable n. n takes up 4 bytes. Each of the variables f_i, f_j and f_k take up 4 bytes each. There is no structural variable.

∴ S_iterative_nthFibonacci(n) = 0

- Now let's analyze the recursive_nthFibonacci(int n) function.

Type	Name	No. of bytes
Parameter: integer	n	4
parameter: integer	n	4
return address		4
return address		4 ??
Total per recursive call		16

Example



We care about: How much memory is being used at the same time during execution.

This is governed by the maximum depth of the call stack at any one moment, not the total number of recursive calls made over time.