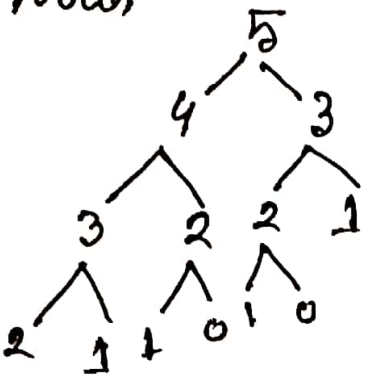
Ans to the question no 6 2

Supposing that we take $n = 5$ for code 1.

Now,



By running the code we get operations,

$$2^0 + 2^1 + 2^2 + 2^3 + 2^4 + 2^5$$

$$= (2^{5+1} - 1)$$

$$= (2^{n+1} - 1) = (2^n) \quad [n = 5]$$

So, its time complexity is, $O(2^n)$

Code 2 :

By running code 2 we get time complexity of $O(n)$.

So, code 1 has a greater time complexity.

Ans to the question no : 4

In problem 4, the matrix loop is the greatest, its time complexity will be,

$$T(n) = Ti(n) + Tj(n) + Tk(n)$$

$$= O(n) * O(n) * O(n)$$

$$= O(n^3)$$