QUESTION NO. 03:

Consider the example of Chinese Whisper as explained below: You need to simulate similar scenario in terms of processes. (Write a C++/C Program for simulation.) "The first person thinks of a sentence and whispers it into the ear of the person next to him or her. The person who just heard the sentence whispers it to the next person. This continues until it reaches the last person. The last person says the sentence that he or she heard out loud." Parent process sends a message (e.g., "You are having special privileges") to a child process using interposes communication. The child process will do the following tasks:

- Firstly, it will generate random number n (ranging from 1 to 5) to select at how many places child wants to alter/update the string.
- Secondly, it will select n random places within the string length. (e.g., 1,3,5,7)
- Thirdly, it will change the string with any character at those n random places.
- Forward the message to next child / parent.

Considering the above scenario, Parent send a string "You are having special privileges" child C1 generate random number n=4 and random places = 1,3,5,7. In third step, it will update the string with letter "x" at those places. The string will be updated as "Yxuxaxexhaving special privileges". Once C1 has updated the string it will send it to C2 where Child 2 will again calculate random numbers and update the string accordingly. (e.g. n =3, random numbers are 9,10,14. The updated string will be as "Ywuxaxexhwwingwspecial privileges". After child has updated the result it will send back the result to its parent. Here parent will calculate the number of changes comparing it with the original string. You can compare each character of string with original string letter and calculate the counter of changes.

You have to communicate between processes using the concept of IPC.