

Draw the pictorial representation using a Singly linked list.

Consider your MIS No.

1. Insert the numbers by using following rules:
 - a. The occurrence of the number for the first time, insert the number at the end.
 - b. The occurrence of number for the second time, multiply the number by 10 and then insert the new number at the end
 - c. The occurrence of the number for the third time, multiply the number by 100 and then insert the new number at the specific position.
2. Traverse the list.
3. Delete the numbers from the existing MIS.
 - a. Delete the largest number
 - b. Delete the smallest number
 - c. Delete the first element
 - d. Delete the last element.

For ex:

Your MIS no. is **612415122**.

| Insert operation | List |
|---|---------------------------|
| | { } |
| 6 | {6} |
| 1 | {6,1} |
| 2 | {6,1,2} |
| 4 | {6,1,2,4} |
| 1 i.e second occurrence. Hence new number is $(1 \times 10) = 10$ | {6,1,2,4,10} |
| 5 | {6,1,2,4,10,5} |
| 1 i.e third occurrence. Hence new number is $(1 \times 100) = 100$. Insert at a specific position. | {6,1,100,2,4,10,5} |
| 2 i.e second occurrence. Hence new number is $(2 \times 10) = 20$ | {6,1,100,2,4,10,5,20} |
| 2 i.e third occurrence. Hence new number is $(2 \times 100) = 200$. Insert at a specific position. | {6,1,100,2,200,4,10,5,20} |

Delete the numbers from existing Linked List

| | |
|------------------------------------|---------------------------|
| Delete the largest number i.e. 200 | {6,1,100,2,200,4,10,5,20} |
|------------------------------------|---------------------------|

| | |
|-----------------------------------|---------------------|
| Delete the smallest number i.e. 1 | {6,100,2,4,10,5,20} |
| Delete the first element i.e. 6 | {100,2,4,10,5,20} |
| Delete the last element i.e. 20 | {100,2,4,10,5} |