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1. A **2D array A[20][50]** of integers is stored in memory. Each integer takes **4 bytes** of storage. **Base Address of A is 3000,** determine the **location of A[10][15]** in :

   a. Row Major representation

   b. Column Major representation

2. Write :
   a. Five Applications of Linked Lists
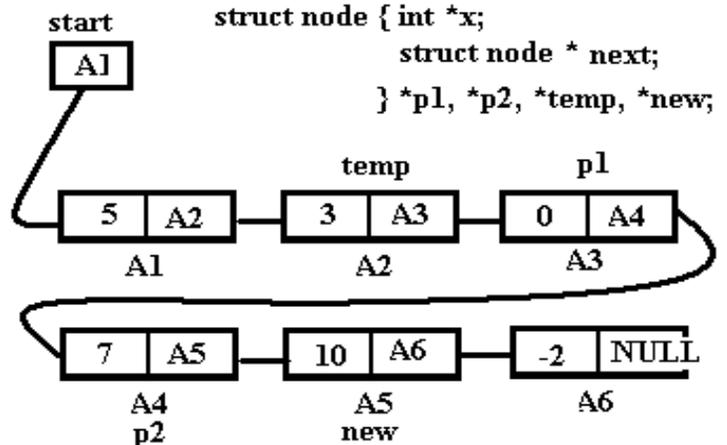   b. Advantages and disadvantages of Linked Lists over Arrays

3. /* Programming */ Write a <u>function</u> to find the <u>middle element</u> of a linked list. If the list is of odd length, it prints the middle element and deletes it. If the list is of even length, it prints the central two elements, deletes both and inserts the sum of the two deleted nodes at the centre of the linked list.

4. A linked list created using **struct node** is given below. How will the following statements affect the structure of the linked list shown in figure? **Draw the resulting linked list** (In Order and with proper addresses in the next field)

1. temp->next = new;
2. temp = new ->next;
3. new ->next = p2;
4. p2->next = p1;
5. p1->next = temp;
6. temp->next = start;
7. start= start->next
8. temp->next->next= NULL;
9. new=(struct node *) malloc(sizeof(struct node));
10.   new->x=100;
11.   temp=temp->next;
12.   temp->next = new;
13.   new->next=NULL;