Lab-5

Leet code problem : Remove linked list element.

Code:

```
struct ListNode{
    int val;
    struct ListNode *next;
};
struct ListNode* removeElements(struct ListNode *head, int val)
{ struct ListNode *temp = head;
  struct ListNode *prev= NULL;
  while (temp != NULL)
  { if (temp->val != val)
    { prev =temp;
      temp =temp->next;
    }
    else
    { if (temp==head)
      {
        head= head->next;
        free(temp);
        temp= head;
        prev =temp;
      }
      else
      {
        prev->next=temp->next;
        free(temp);
        temp = prev->next;
      }
    }
  }
  return head;
}
```

Input: head = [1, 2, 6, 3, 4, 5, 6] , val = 6

Output: [1, 2, 3, 4, 5].

Leetcode problem - middle of linked list.

Code:

```
struct ListNode {
    int val;
    struct ListNode *next;
};
struct ListNode* middleNode(struct ListNode* head)
{ struct ListNode *temp=head;
    int length=0;
    while(temp!=NULL)
    {
        length++;
        temp=temp->next;
    }
    int mid=length/2;
    temp=head;
    for(int i=0; i<mid; i++)
    { temp=temp->next;
    }
     return temp;
}
```

Input: head = [1,2,3,4,5]

output: [3,4,5]