3b ds

```
#include <stdio.h>
#include <stdlib.h>
struct node{
        int data;
        struct node*link;
};
typedef struct node NODE;
NODE*first=NULL;
NODE*second=NULL;
NODE*res=NULL;
NODE*newnode(int data){
NODE*new_node=(NODE*)malloc(sizeof(NODE));
new_node->data=data;
new_node->link=NULL;
return new_node;
}
void insfront(NODE* *head_ref,int new_data)
{
        NODE *new_node=newnode(new_data);
        new_node->link=*head_ref;
        *head_ref=new_node;
}
NODE*addtwolists(NODE*first,NODE*second)
{
        NODE*res=NULL;
        NODE*temp;
        int carry=0,sum;
```

```
	while(first != NULL || second != NULL)
	{
		sum=carry+(first?first->data:0)+(second?second->data:0);
		carry=(sum>=10)?1:0;
		sum=sum%10;
		temp=newnode(sum);
		if(res==NULL)
		res=temp;
		else
		{
			temp->link=res;
			res=temp;
		}
		if(first)
		first=first->link;
		if(second)
		second=second->link;
	}
	if(carry>0)
	{
		temp=newnode(carry);
		temp->link=res;
		res=temp;
	}
	return res;
}
void printlist(NODE*node)
{
	while(node!=NULL)
```

```
	{
		printf("%d",node->data);
		node=node->link;
	}
	printf("\n");
}
int main(void)
{
	insfront(&first,6);
	insfront(&first,4);
	insfront(&first,9);
	insfront(&first,5);
	insfront(&first,7);
	printf("first list is\n");
	printlist(first);
	insfront(&second,7);
	insfront(&second,2);
	insfront(&second,1);
	insfront(&second,4);
	insfront(&second,8);
	printf("second list\n");
	printlist(second);
	res=addtwolists(first,second);
	printf("resultant list is\n");
	printlist(res);
}
```