

<https://course.acciojob.com/idle?question=f9ebb6a0-0789-4aea-bc82-d875b1b7ae88>

● EASY

● Max Score: 30 Points

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## Add two numbers represented by linked lists

Given two numbers represented by two linked lists of size N and M. The task is to return a sum list.

The sum list is a linked list representation of the addition of two input numbers from the last.

### Input Format

The first line inputs N and M ,the size of two linked lists.

The second line inputs the value of N nodes of 1st linked list.

The third line inputs the value of M nodes of 2nd linked list.

### Output Format

Print the sum list.

## Example 1

Input

```
2 3
4 5
3 4 5
```

Output

```
3 9 0
```

Explanation

For the given two linked list (4 5) and (3 4 5), after adding the two linked list resultant linked list will be (3 9 0).

## Example 2

Input

```
3 3
5 4 1
7 2 5
```

Output

```
1 2 6 6
```

Explanation

For the given two linked list (5 4 1) and (7 2 5), after adding the two linked list resultant linked list will be (1 2 6 6 ).

**Constraints:**

$1 \leq N, M \leq 5000$

$0 \leq |\text{value of each node}| \leq 9$

## Topic Tags

- **Linked lists**

# My code

```
// n java
import java.util.*;
import java.lang.*;
import java.io.*;

class Node
{
    int data;
    Node next;

    Node(int data, Node next)
    {
        this.data = data;
        this.next = next;
    }

    Node() {}
}
```

```
public class Main
{
```

```
    static void display(Node h)
    {
        Node p=h;
        while(p!=null)
        {
            System.out.print(p.data+" ");
            p=p.next;
        }
    }
```

```
static Node addlist(Node a, Node b, int n, int m)
{ Node h=a;
  int c=0;
  while(b!=null)
  { int r=(a.data+b.data+c)%10;
    c=(a.data+b.data+c)/10;

    a.data=r;
    a=a.next;
    b=b.next;
  }
```

```
while(a!=null)
{ int r=(a.data+c)%10;
  c=(a.data+c)/10;//System.out.print(a.data);
  a.data=r;
  a=a.next;
```

```

    }
    if (c!=0){
        Node t=h; while(t.next!=null) t=t.next;    //
System.out.print("hi");
        while (c!=0)
        {
            Node dum = new Node();
            dum.data=c%10;
            dum.next=null;
            c/=10;
            t.next=dum;
            t=t.next;

        }
    }
    return h;
}

```

```

static Node reverse(Node a)
{
    Node dummy = new Node();
    Node tail = dummy;
    while (true)
    {
        if (a == null) break;
        Node d=a;
        a=a.next;
        d.next=tail.next;
        tail.next=d;
    }
}

```

```

    }

    return dummy.next;
}

```

```

    public static void main (String[] args) throws
java.lang.Exception
    {
        //your code here
        Scanner s=new Scanner(System.in);
        Node a=null,b=null;

        int n=s.nextInt();
        int m=s.nextInt();
        int arr[]=new int[n];
        for(int i=0;i<n;i++)
            arr[i]=s.nextInt();

        int arrb[]=new int[m];
        for(int i=0;i<m;i++)
            arrb[i]=s.nextInt();
        for(int i=n;i>0;i--)
            a=new Node(arr[i-1], a);
        for(int i=m;i>0;i--)
            b=new Node(arrb[i-1], b);
        //display(a);
        //display(b);
        Node h1=reverse(a);
        Node h2=reverse(b);
    }
}

```

```
//display(h1);
// display(h2);
Node d=null;
    if(n>m)
        d=addlist(h1,h2,n,m);
else d=addlist(h2,h1,m,n);//display(d);
    Node h3=reverse(d);
    display(h3);

    }
}
```