✔ Add linked list

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◷ **Time limit:** 1.0s
▤ **Memory limit:** 256M

˅ **Allowed languages**
   C, rust

Problem Description

Given two positive integers A and B you need to output $C = A + B$. However, you represent the digits of the integers involved in the form of a linked list. Formally, given two linked lists L_A, L_B which represents the digits of A and B respectively in the **reverse order** that is, with the units place occurring as the first node, return a linked list L_C which represents the digits of $C = A + B$ again in **reverse order**.

Further, L_A, L_B may not be of equal length and will not contain leading zeroes. Similarly L_C must not contain leading zeroes.

Create a function that takes in two linked lists L_A, L_B as input and returns the linked list L_C as described by the problem statement.

Input Format

The first line of input contains a single integer T that denotes the number of test-cases. Then $2T$ lines follow. The first line of each test-case contains space-separated digits terminating with the number -1 indicating an end of input. These represent the digits of A in the reversed order. The second line similarly describes the integer B. Note that the number of digits in A and B may not be equal.

Input constraints

- $1 \leq |L_A|, |L_B| \leq 1e5$ where $|L_A|, |L_B|$ denote the number of nodes in the linked lists L_A, L_B respectively
- $1 \leq T \leq 1e5$
- Sum over lengths of L_A, L_B over all test-cases does not exceed $2e5$
- Note that the value of A, B may be too large to fit in any integer data-type

Create a function that takes in two linked lists L_A, L_B as input and returns the linked list L_C as described by the problem statement. Then, print the space-separated digits in reverse order (units place first). Note that the output should not have a terminating -1.

Sample Input

Copy

```
3
3 6 7 -1
2 5 1 2 -1
1 -1
9 -1
3 -1
9 9 -1
```

Sample Output

Copy

```
5 1 9 2
0 1
2 0 1
```

Note

Explanation for sample input 1: $3 \to 6 \to 7$ represents the number 763 whereas $2 \to 5 \to 1 \to 2$ represents the number 2152 giving us the answer, $763 + 2152 = 2915$

Code for taking input

Copy

≡   Hello, **2024101067**.

```c
  scanf("%d", &t);
  while (t--) {
    List Ls[2];
    for (int i = 0; i < 2; i++) {
      while (1) {
        int x;
        scanf("%d", &x);
        if (x < 0)
          break;
        /*
         * Create linked list Ls[i]
         */
      }
    }
    //GLHF
  }
```

❓ Clarifications   Request clarification

No clarifications have been made at this time.