

A student can register for two different courses in the institute namely course A and course B. Students registered for course A are represented by linked list having head pointer head1. Similarly, students registered for course B are represented by linked list having head pointer head2.

Each subject and a node in linked list are correspondingly represented by the following structures.

```
struct subject
{
    char course;
    int marks[3];
};
struct node
{
    int roll_no;
    struct subject sub[2];
    struct node* next;
};
```

- a) **roll_no** represent unique roll number of the student.
- b) **sub** is an array of size two of Structure **subject**; first element at index zero represent Course A information and second element at index one represent Course B information. Structure **subject** has following members:
 - I. **course** represents the course id which is a character(either 'A' or 'B')
 - II. Array **marks** of size three represent the marks of quiz, mid-term and compere at index 0, 1 and 2 respectively.
- c) **next** is a pointer pointing to the next node in a given list.

In linked list of course A (head1), the information regarding course B which is in **sub[1]** is represented as follows:

- a) **course** is set to character '0' (i.e. zero).
- b) Array **marks** contains -1 (integer) for quiz, mid-term and compere at index 0, 1 and 2 respectively.

Similarly, in linked list of course B (head2), the information regarding course A which is in **sub[0]** is represented as follows:

- a) **course** is set to character '0' (i.e. zero).
- b) Array **marks** contains -1 (integer) for quiz, mid-term and compere at index 0, 1 and 2 respectively.

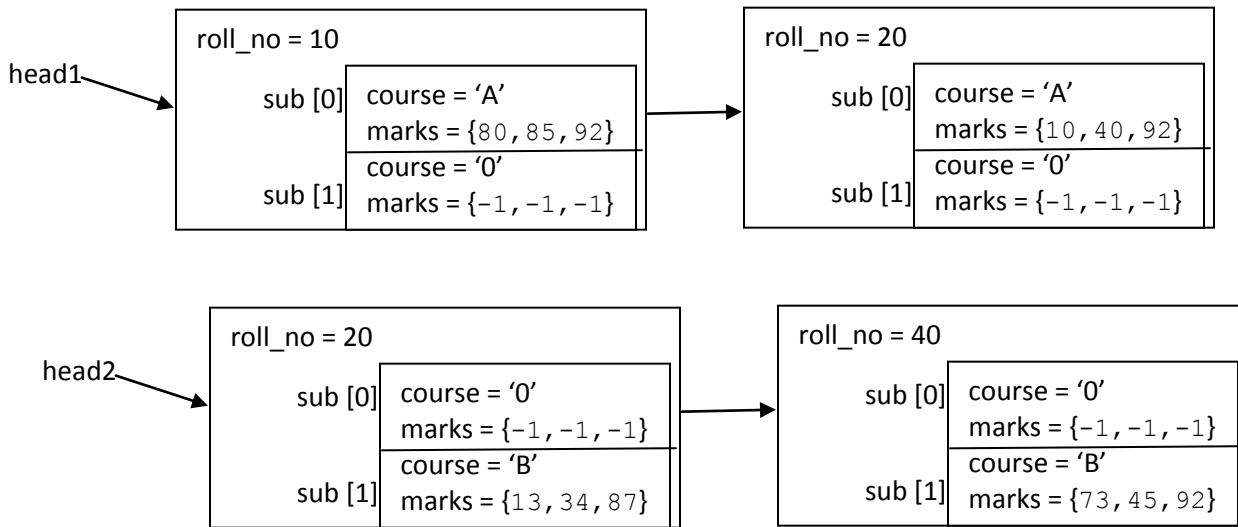
Implement the following two functions:

1. **struct node *getUnion(struct node *head1, struct node *head2);**

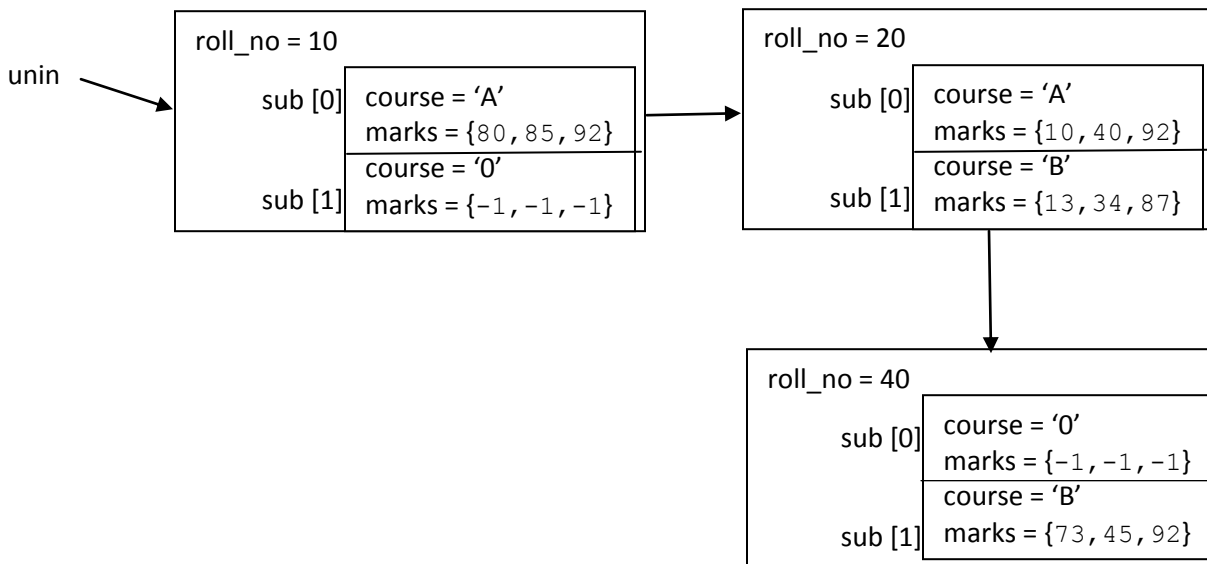
This function **getUnion()** takes both header pointers (head1 and head2) as parameters and returns a new linked list with the following information:

- a) If student is registered in only one course, then the node is added to new linked list which is a copy of the node present in either of the list.
- b) If student is registered in both courses, then node is added to the new linked list containing information of both courses.
(Note: After union, now structure at index 0 and 1 in **sub** have the respective information of both courses, which is not the case initially (Read line: In linked list of course A (head1),))

For illustration please refer to the following example in the given figure:



After Union:



2. void printList_Marks(struct node *head1, struct node *head2)

Write a function that prints the roll number, course (i.e. A or B) and mid-term marks of students who scored more than 50 marks in their respective compre examination. **This function will be tested for its completeness (i.e. 0M or 15M)**