Insert a node at a specific position in a linked list

HackerRank

This challenge is part of a tutorial track by MyCodeSchool and is accompanied by a video lesson.

Given a pointer to the head node of a linked list and an integer to insert at a certain position, create a new node with the given integer as its $data$ attribute, insert this node at the desired position, and return the head node.

A position of 0 indicates the head, a position of 1 indicates one node away from the head, and so on. The head pointer given may be null, meaning that the initial list is empty.

Example
$head$ refers to the first node in the list $1 \rightarrow 2 \rightarrow 3$
$data = 4$
$position = 2$

Insert a node at position 2 with $data = 4$. The new list is $1 \rightarrow 2 \rightarrow 4 \rightarrow 3$

Function Description
Complete the function $insertNodeAtPosition$ with the following parameters:

- $SinglyLinkedListNode\ pointer\ llist$: a reference to the head of the list
- $data$: an integer value to insert as data in the new node
- $position$: an integer position to insert the new node, zero-based indexing

Returns

- $SinglyLinkedListNode\ pointer$: a reference to the head of the revised list

Input Format

The first line contains an integer n, the number of elements in the linked list.
Each of the next n lines contains an integer SinglyLinkedListNode[i].data.
The next line contains an integer $data$, the data of the node that is to be inserted.
The last line contains an integer $position$.

Constraints

- $1 \leq n \leq 1000$
- $1 \leq SinglyLinkedListNode[i].data \leq 1000$, where $SinglyLinkedListNode[i]$ is the i^{th} element of the linked list.
- $0 \leq position \leq n$.

Sample Input

```
STDIN   Function
-----   --------
3       n = 3
16      llist = 16->13->7
13
7
1       data = 1
2       position = 2
```

Sample Output

```
16 13 1 7
```

Explanation

The initial linked list is $16 \rightarrow 13 \rightarrow 7$. Insert 1 at the position 2 which currently has 7 in it. The updated linked list is $16 \rightarrow 13 \rightarrow 1 \rightarrow 7$.