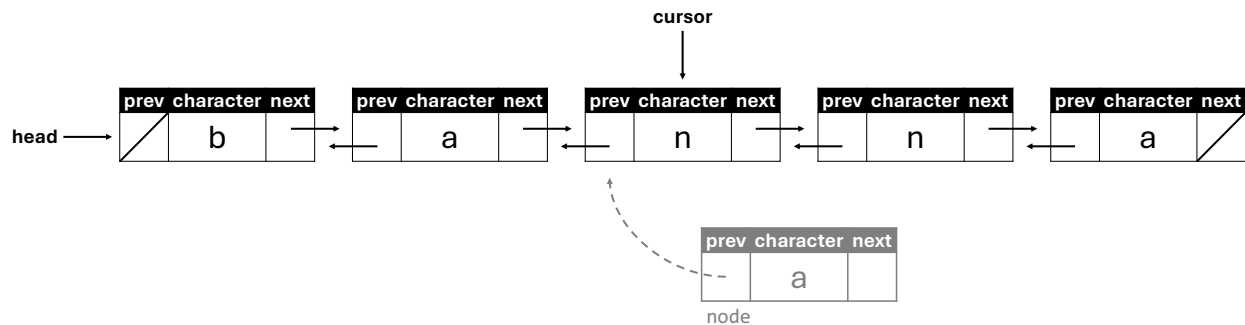


1 `insert(char c)`

In the `insert(char c)` method, you should insert a character right after the current cursor location. For example, calling `insert('a')` when the current Line is `ban|na` will produce `bana|na`.

Demonstrate how the `next` and `prev` fields will be updated in the figure below. Assume two edge cases are already handled: when the `head` is `null` and when the `cursor` is `null`.

The first update is provided to you as an example: setting `node.prev` to `cursor`.



Write the updates you will make on the lines below. I'd suggest using the first two lines to update the `prev` and `next` fields of `node` (the node you are adding). Then, the next two lines should update additional `prev` and `next` fields. The last line should update `cursor`. Make sure that the order of your updates prevents you from losing the tail end of your line!

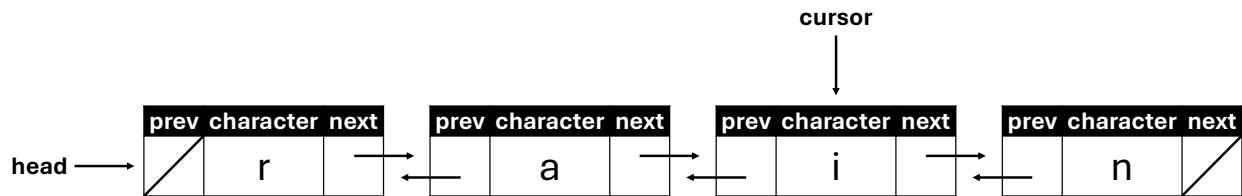
- ① _____ = _____
- ② _____ = _____
- ③ _____ = _____
- ④ _____ = _____
- ⑤ `cursor` = _____

Finally, think about null pointer exceptions. Which line will cause an exception when `cursor.next` is `null`?

2 delete()

In the `delete()` method, you should delete the character located at the cursor. For example, calling delete when the current Line is `rai|n` will produce `ra|n`.

Demonstrate how the `next` and `prev` fields will be updated in the figure below. Assume two edge cases are already handled: when the `head` and/or `cursor` are `null`, and when the `head` is the cursor.



Write the updates you will make on the lines below. The first two updates should be updates to `prev` and `next` fields; the last should update `cursor`.

- ① _____ = _____
- ② _____ = _____
- ③ `cursor` = _____

Finally, think about null pointer exceptions:

- Which line will cause an exception when `cursor.prev` is `null`?
- Which line will cause an exception when `cursor.next` is `null`?