Recursion Examples

listIsSorted

Example 1

listIsSorted: Ex 1


```
int main(void) {
    ...
    bool sorted = listIsSorted(l);
}

bool listIsSorted(struct node *l) {
    if (l == NULL) {
        return true;
    } else if (l->next == NULL) {
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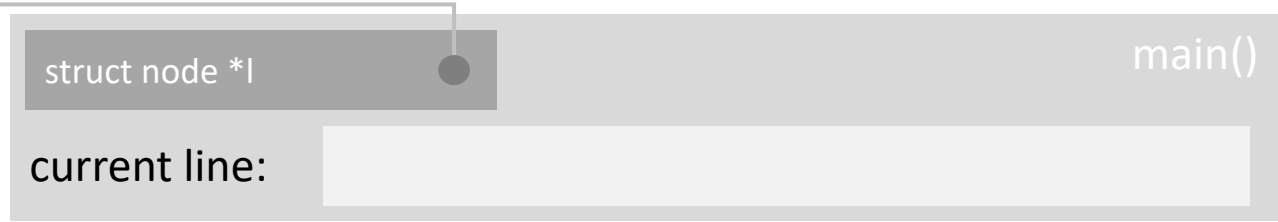
    } else if (l->value > l->next->value) {
        return false;
    } else {
        return listIsSorted(l->next);
    }
}
```



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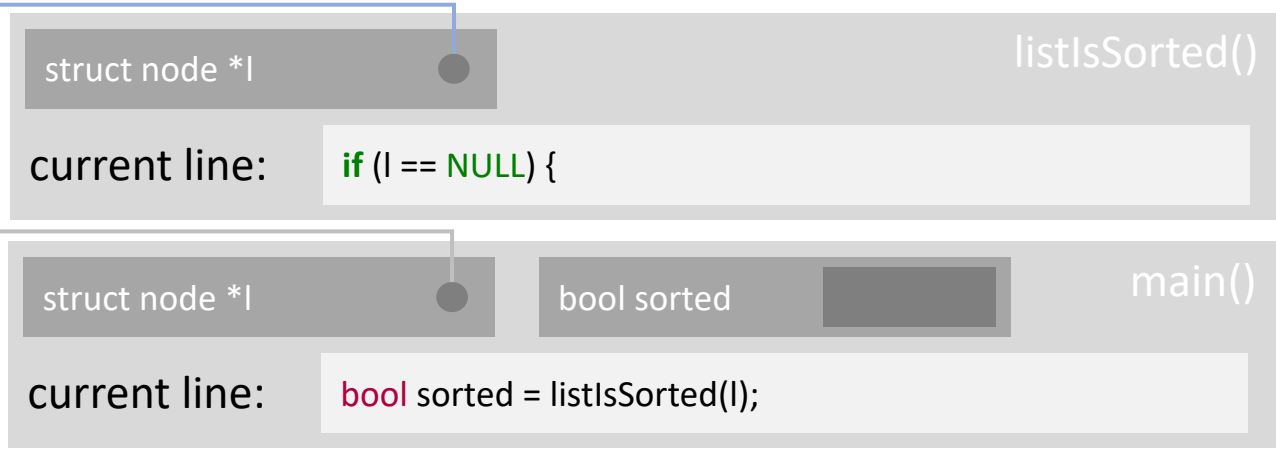

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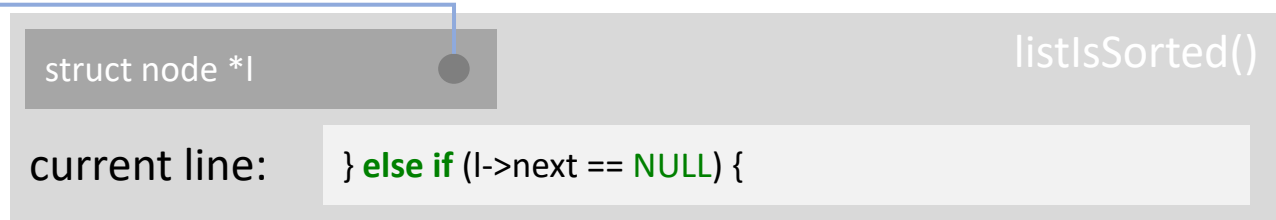

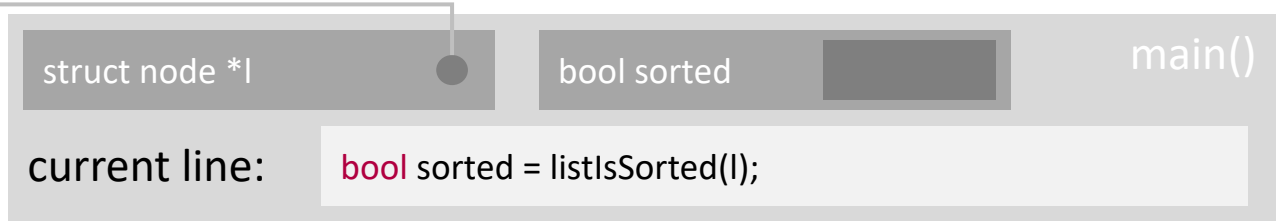

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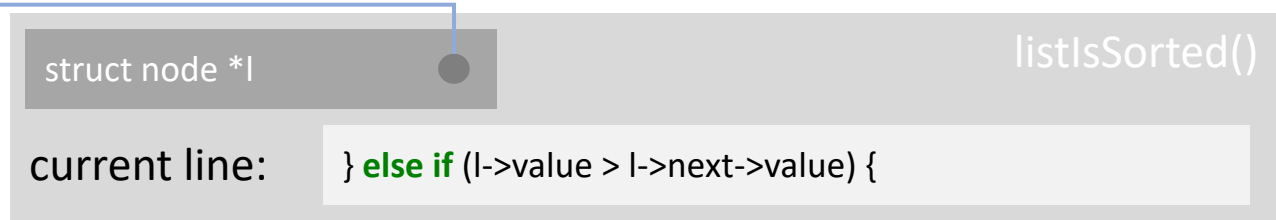

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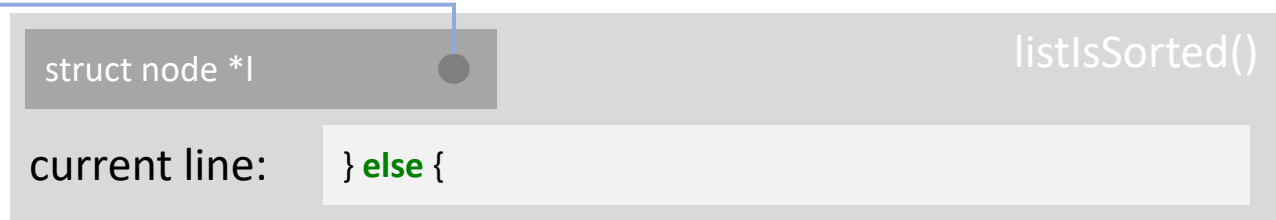

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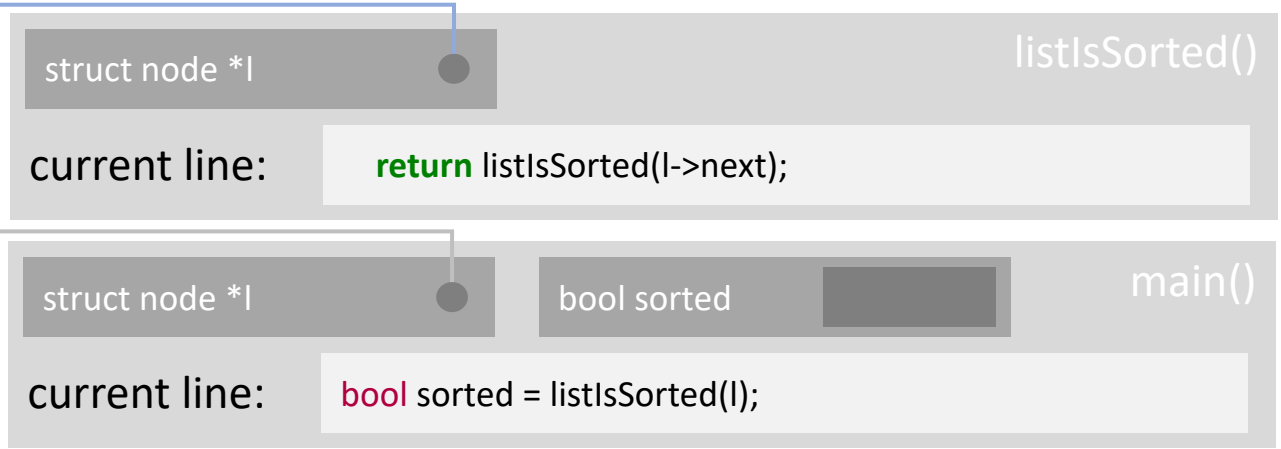

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int main(void) {
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listIsSorted()

struct node *l

current line: } else if (l->next == NULL) {

listIsSorted()

struct node *l

current line: return listIsSorted(l->next);

main()

struct node *l

bool sorted

current line: bool sorted = listIsSorted(l);

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listIsSorted()

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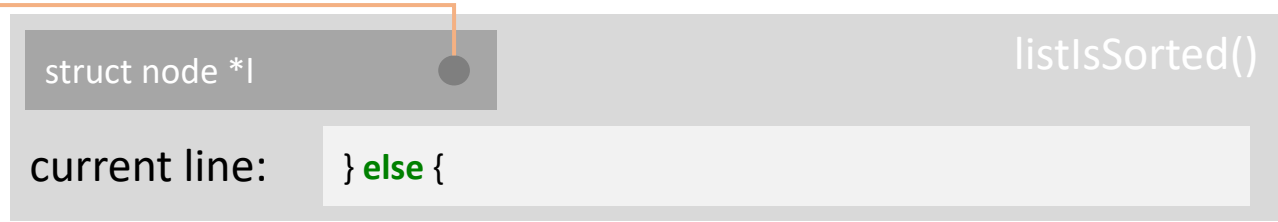

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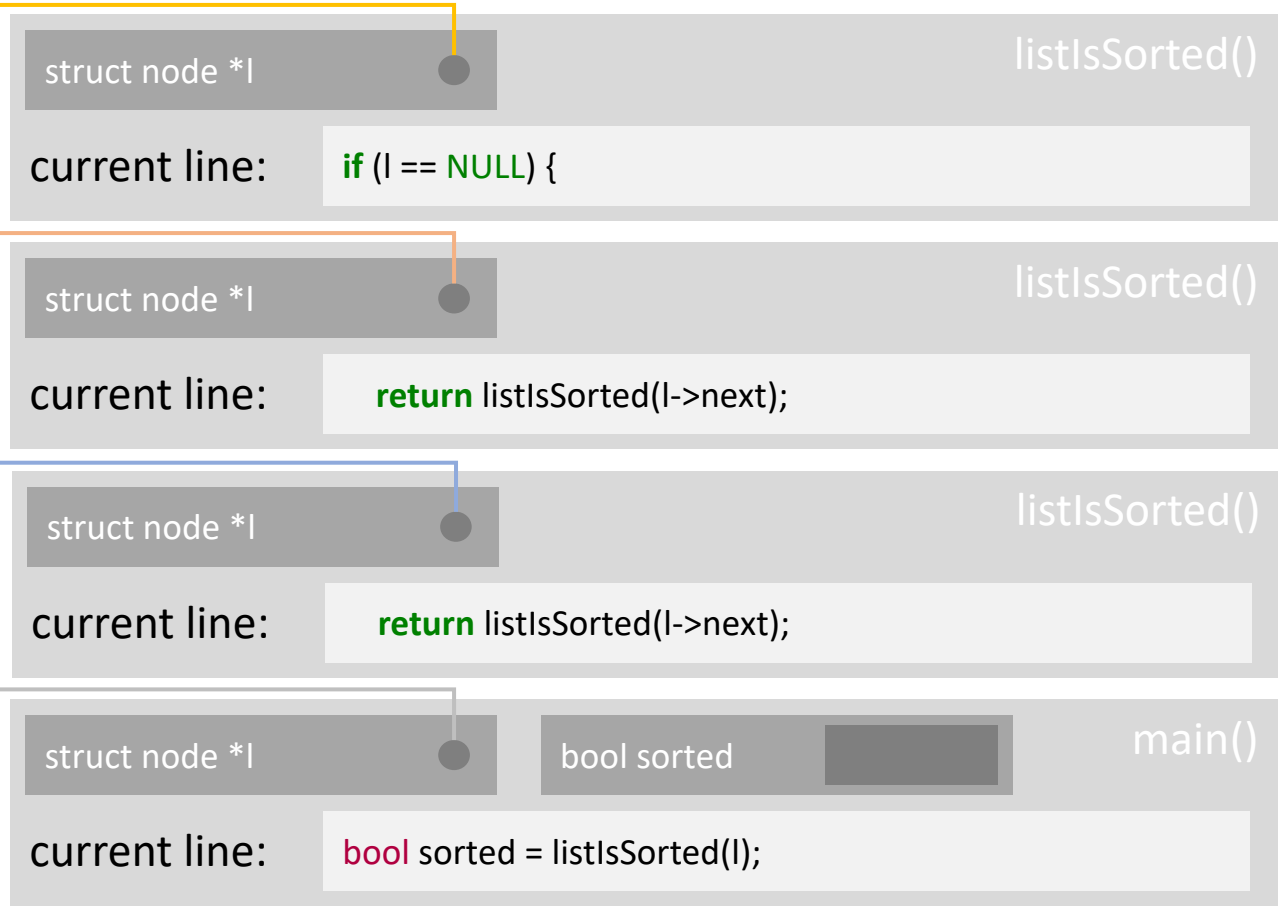

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main()
struct node *l
bool sorted
current line: bool sorted = listIsSorted(l);

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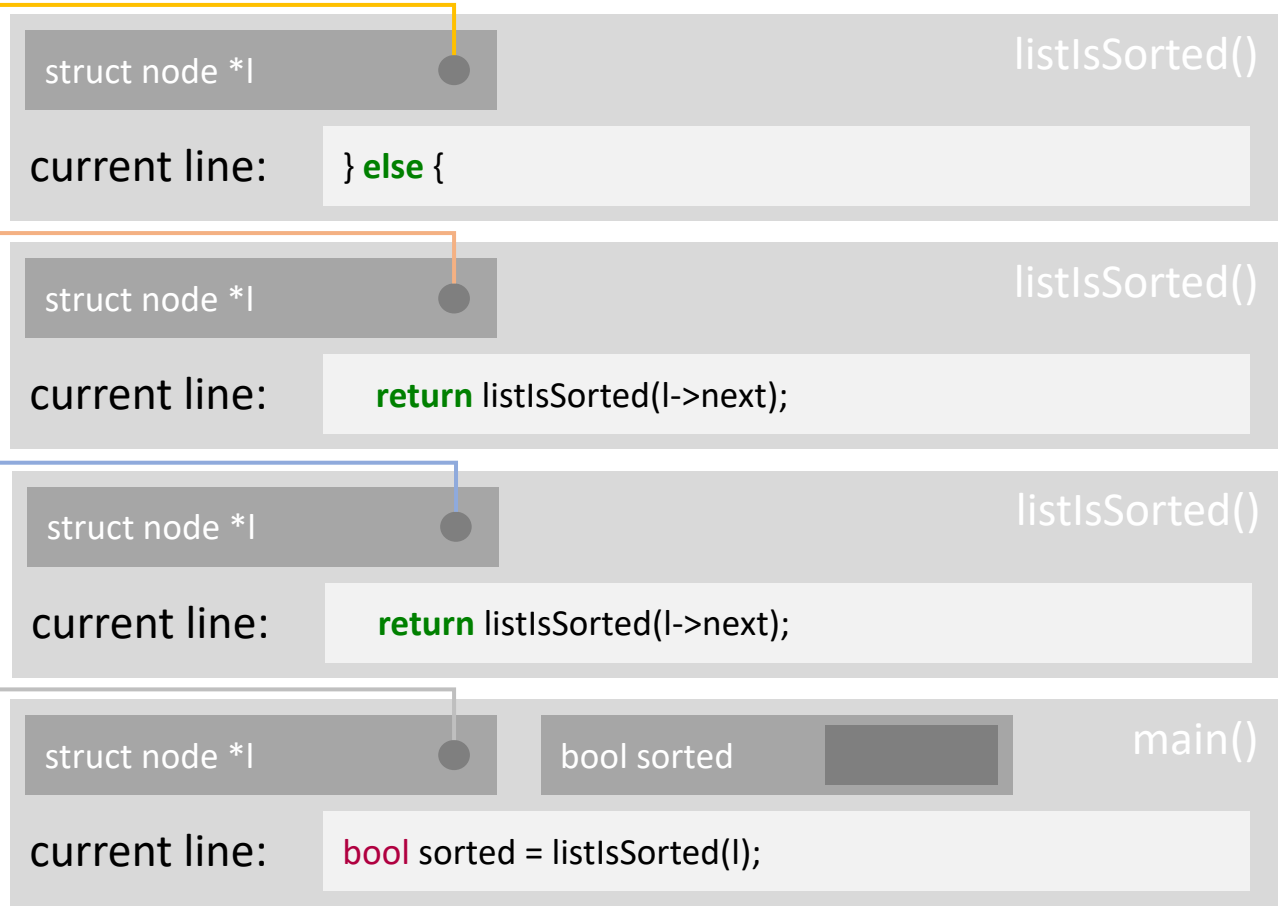

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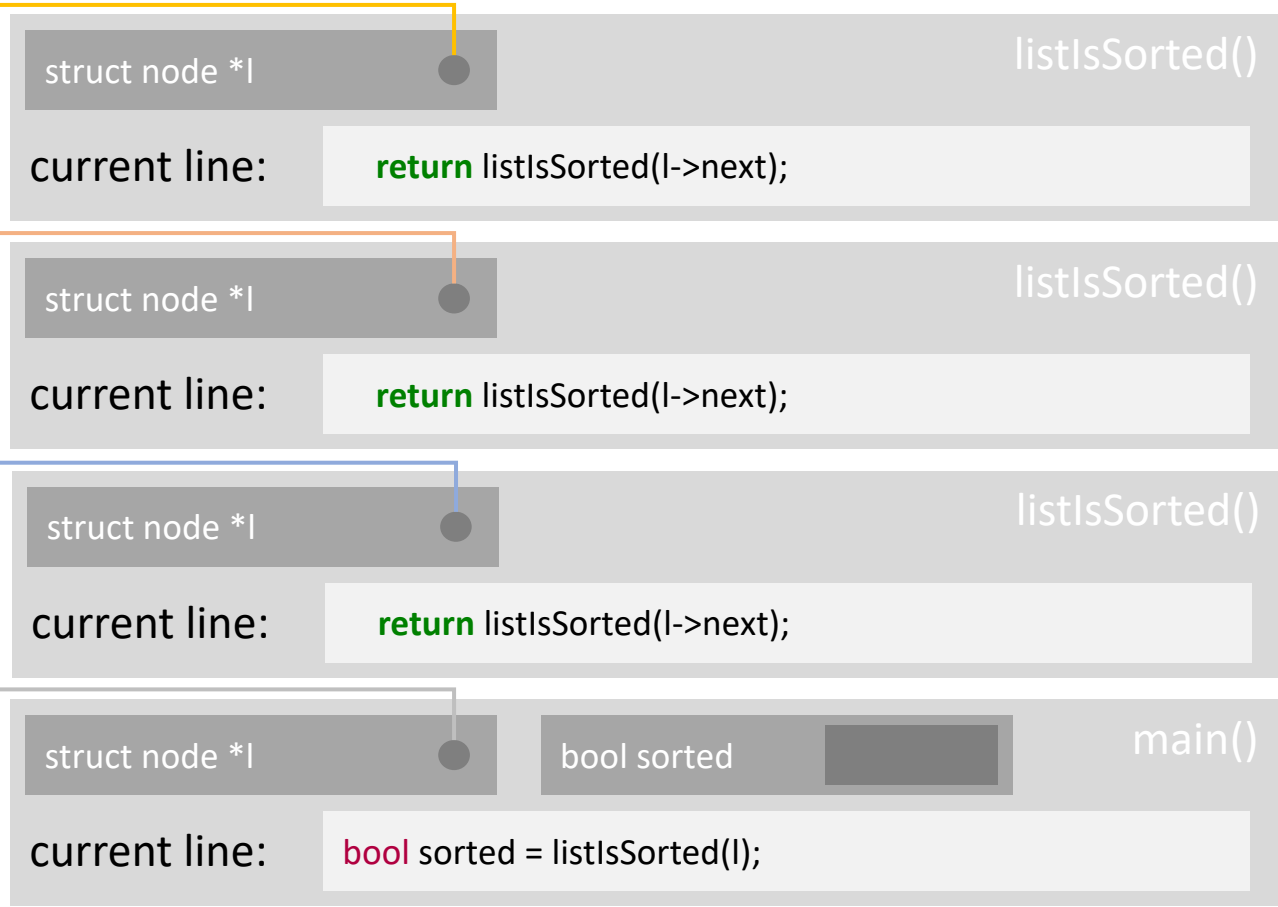

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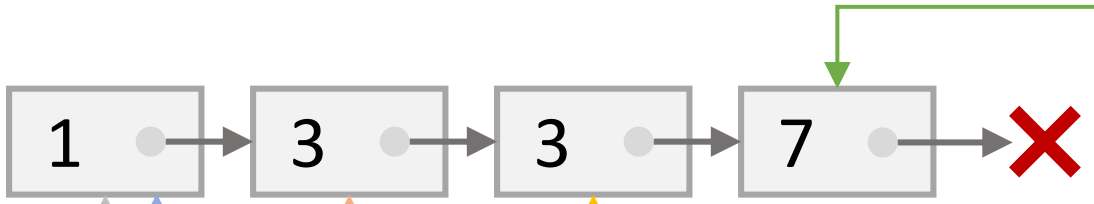


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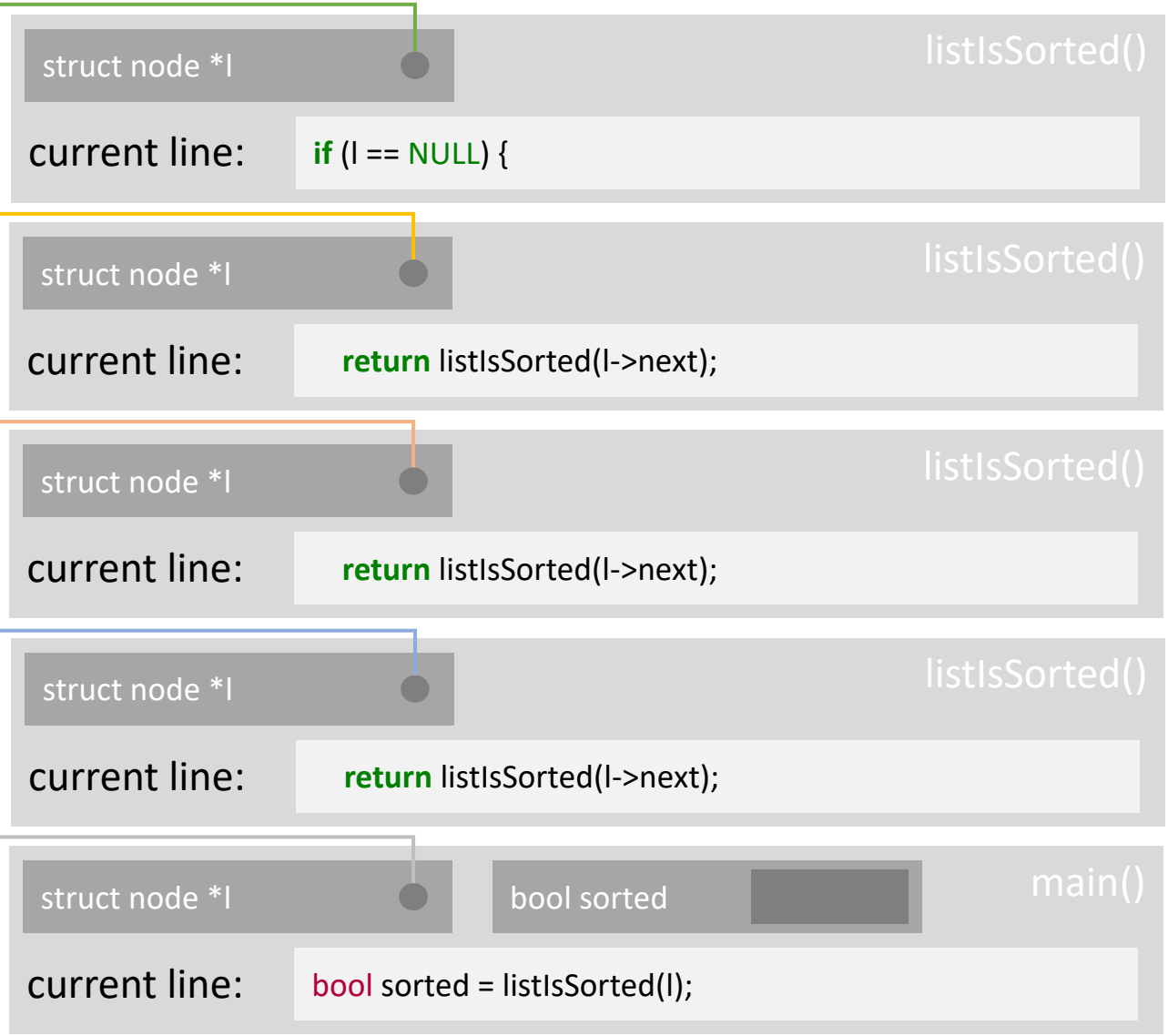

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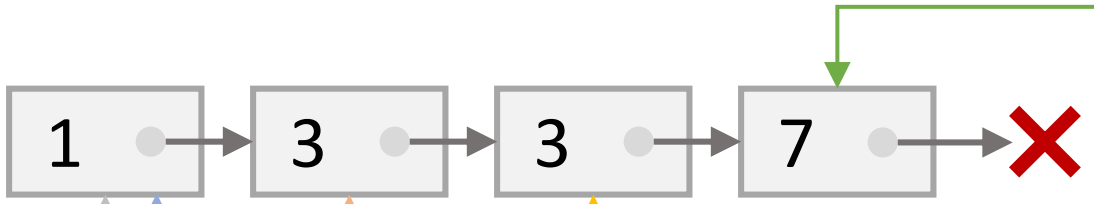


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main()
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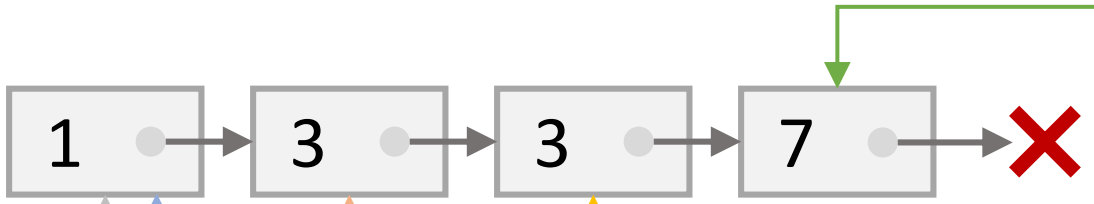
listIsSorted: Ex 1

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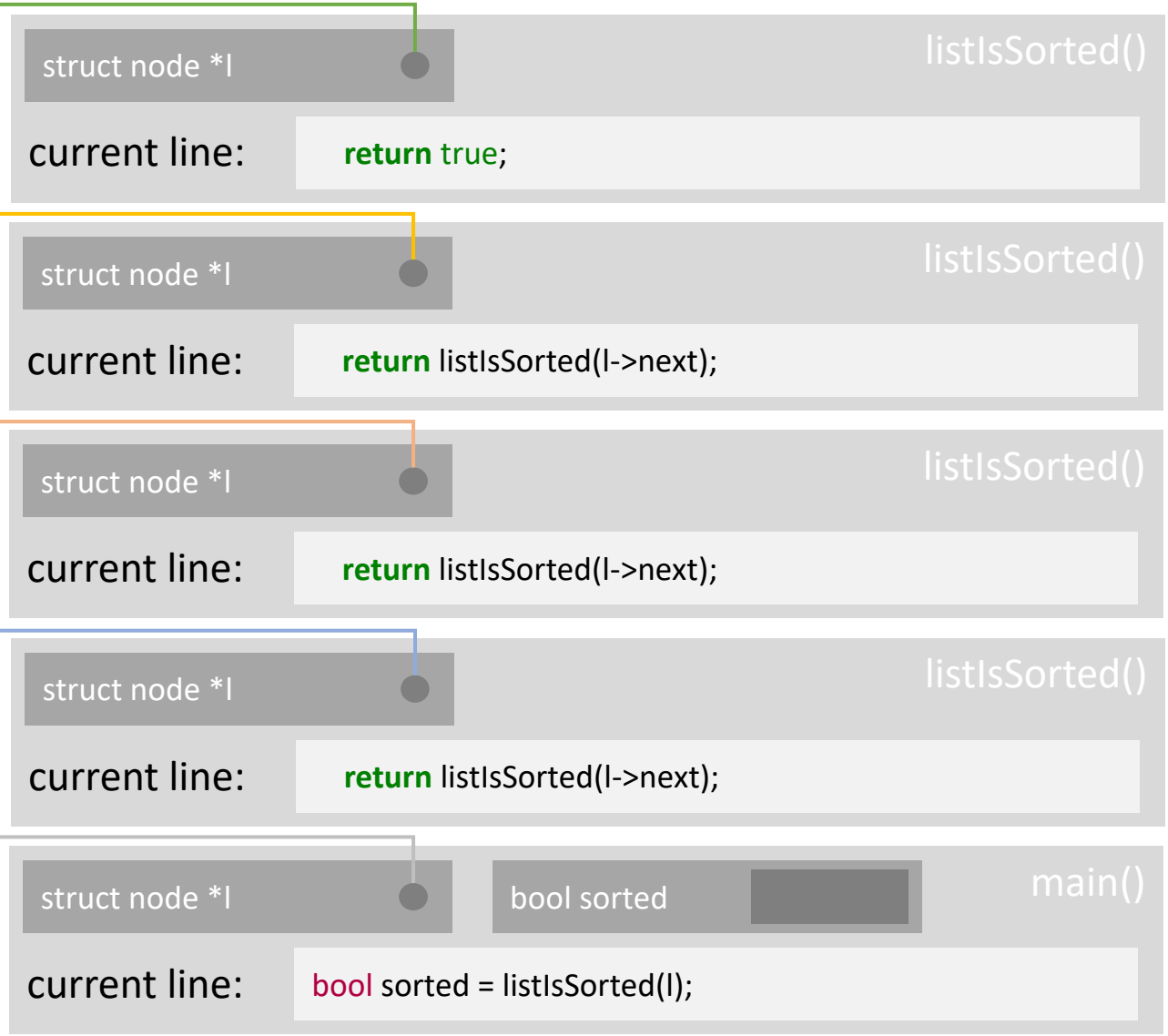

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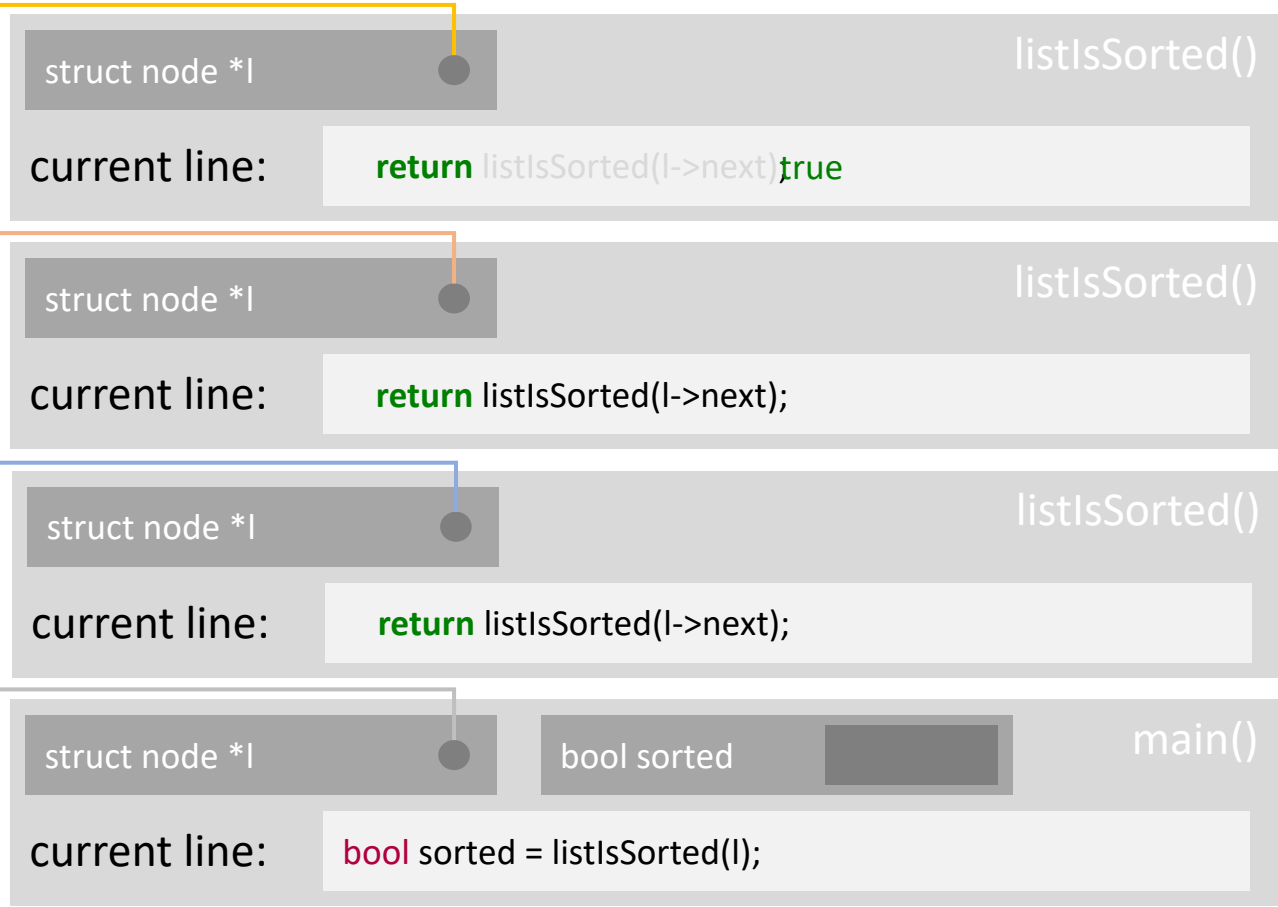

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listIsSorted()

struct node *l

current line: return listIsSorted(l->next);true

listIsSorted()

struct node *l

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main()

struct node *l

bool sorted

current line: bool sorted = listIsSorted(l);

listIsSorted: Ex 1


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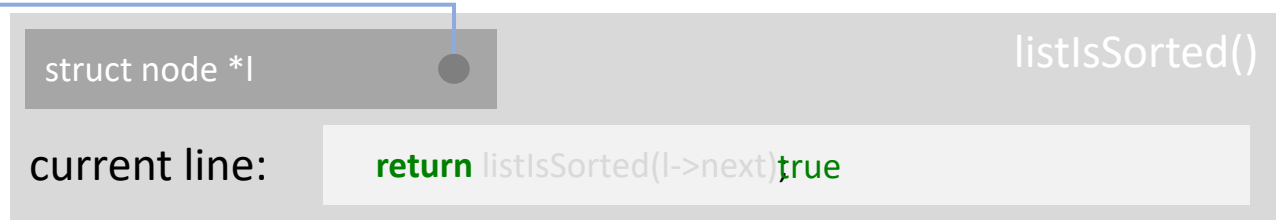

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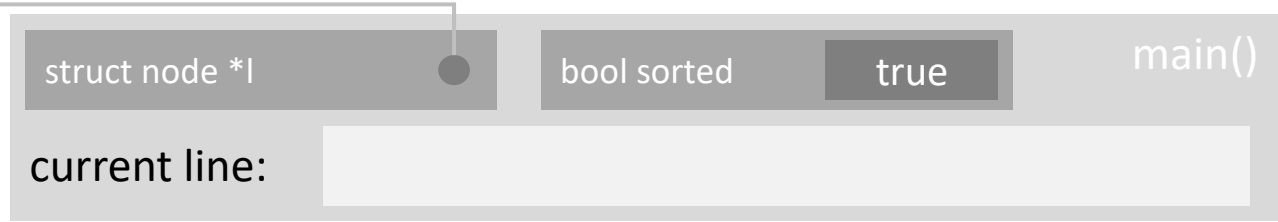
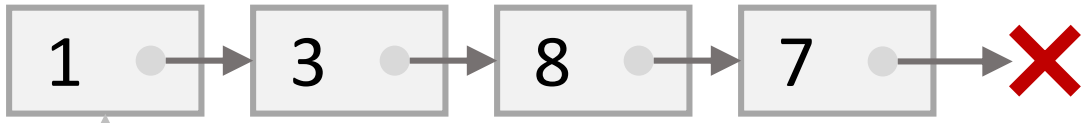


Example 2

listIsSorted: Ex 2

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    }
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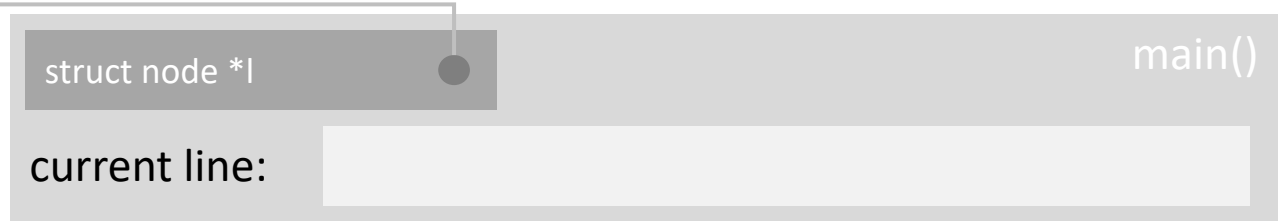
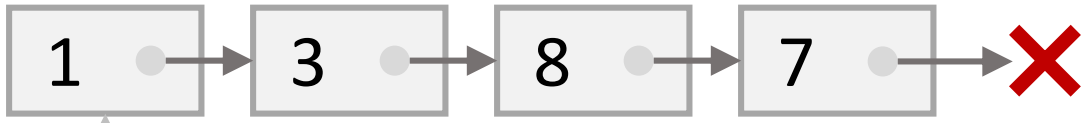
```



listIsSorted: Ex 2

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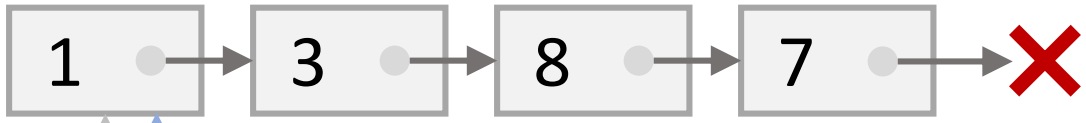


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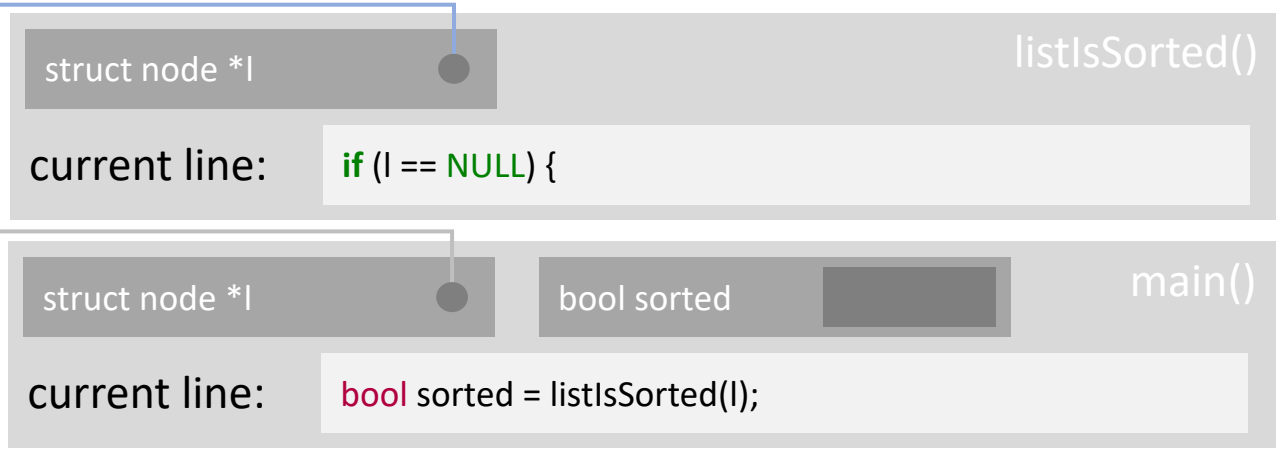

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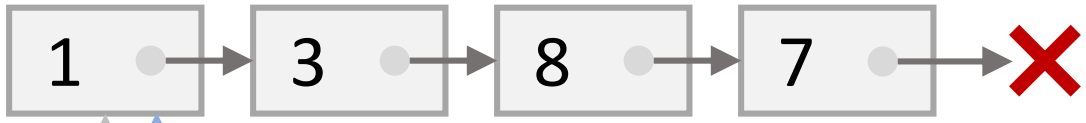


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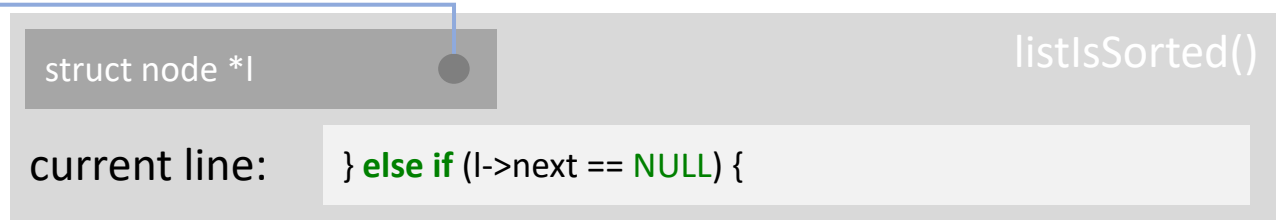
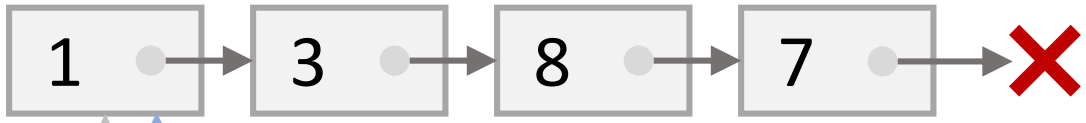


listIsSorted: Ex 2

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}

bool listIsSorted(struct node *l) {
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   } else if (l->value > l->next->value) {
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   } else {
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   }
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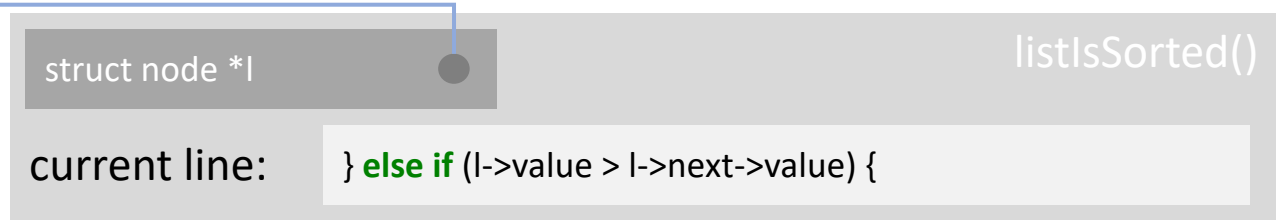
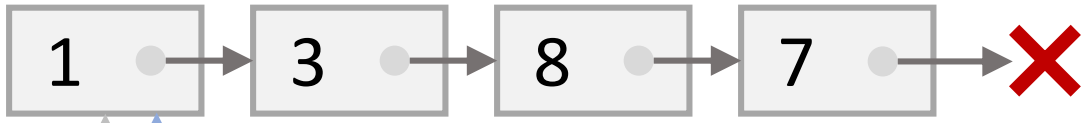


listIsSorted: Ex 2

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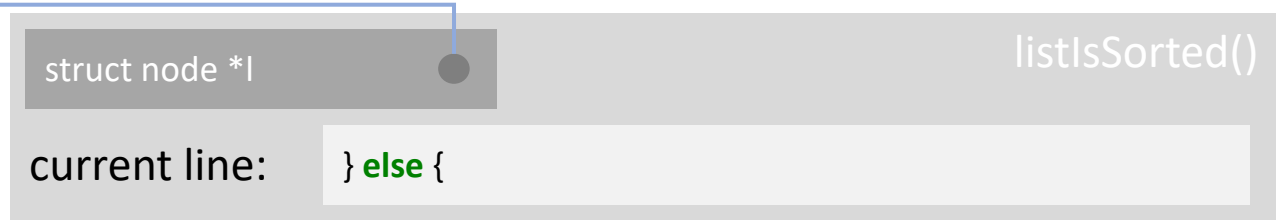
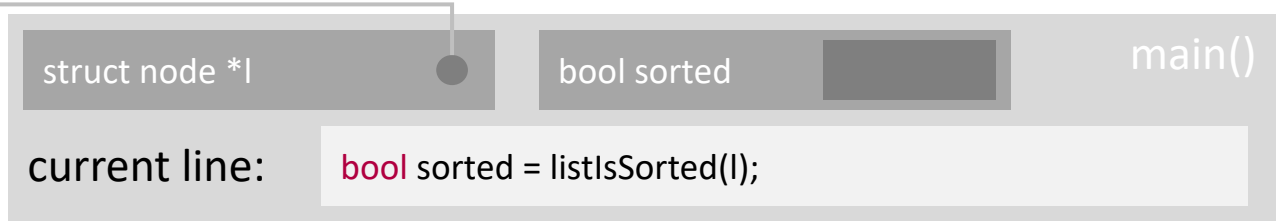
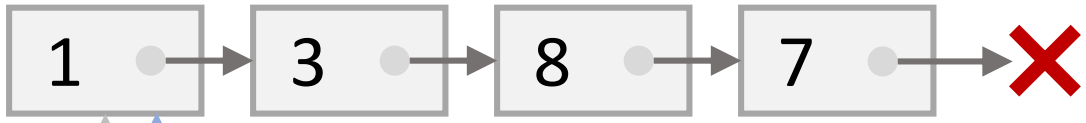




listIsSorted: Ex 2

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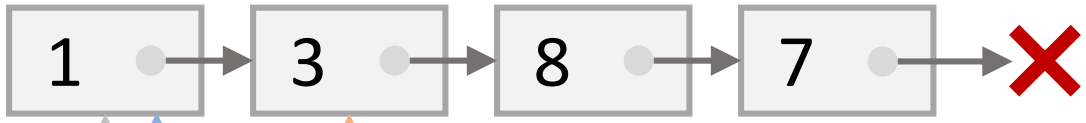
listIsSorted: Ex 2

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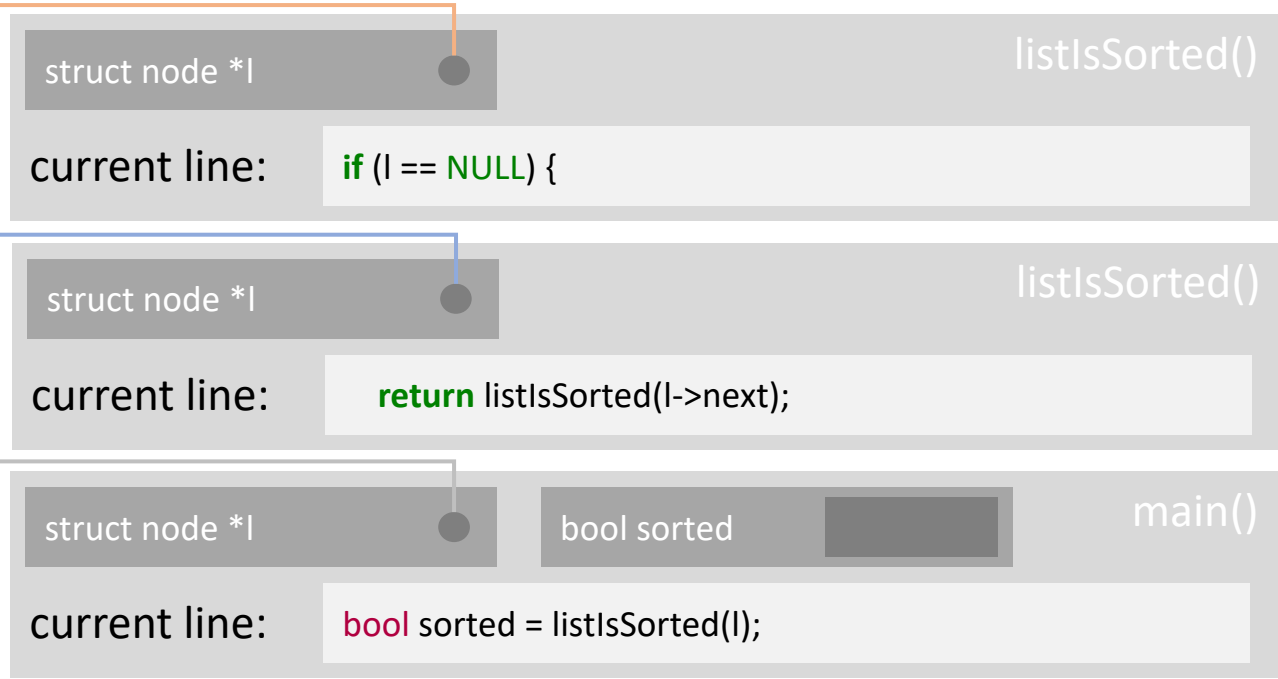
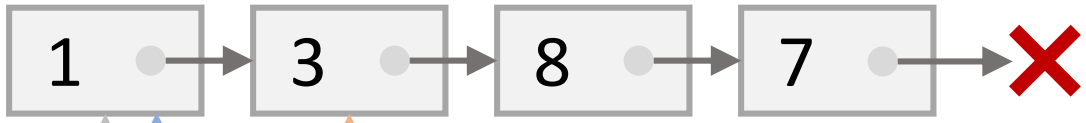


listIsSorted: Ex 2

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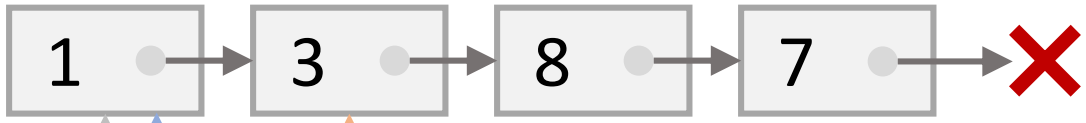
listIsSorted: Ex 2

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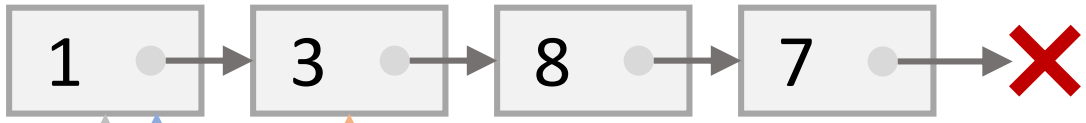
listIsSorted()
struct node *l
current line: } else if (l->value > l->next->value) {

listIsSorted()
struct node *l
current line: return listIsSorted(l->next);

main()
struct node *l
bool sorted
current line: bool sorted = listIsSorted(l);

listIsSorted: Ex 2




```c
int main(void) {
   ...
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      return false;
   } else {
      return listIsSorted(l->next);
   }
}
```
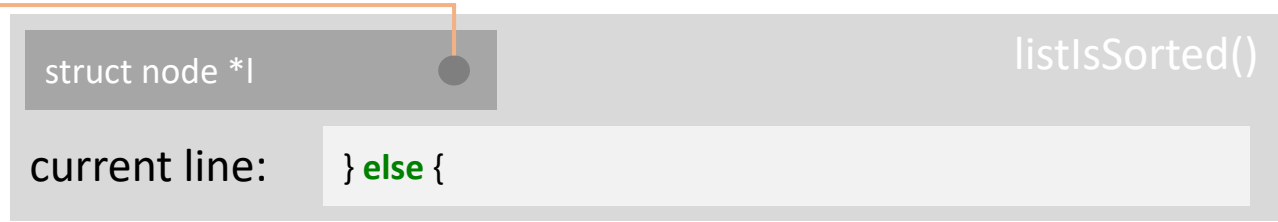
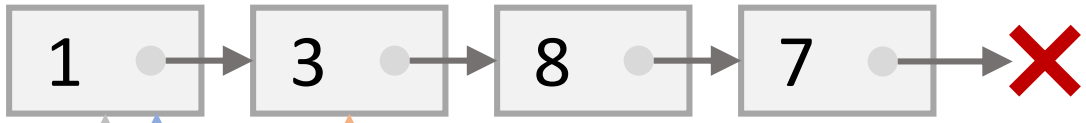



listIsSorted: Ex 2

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listIsSorted: Ex 2


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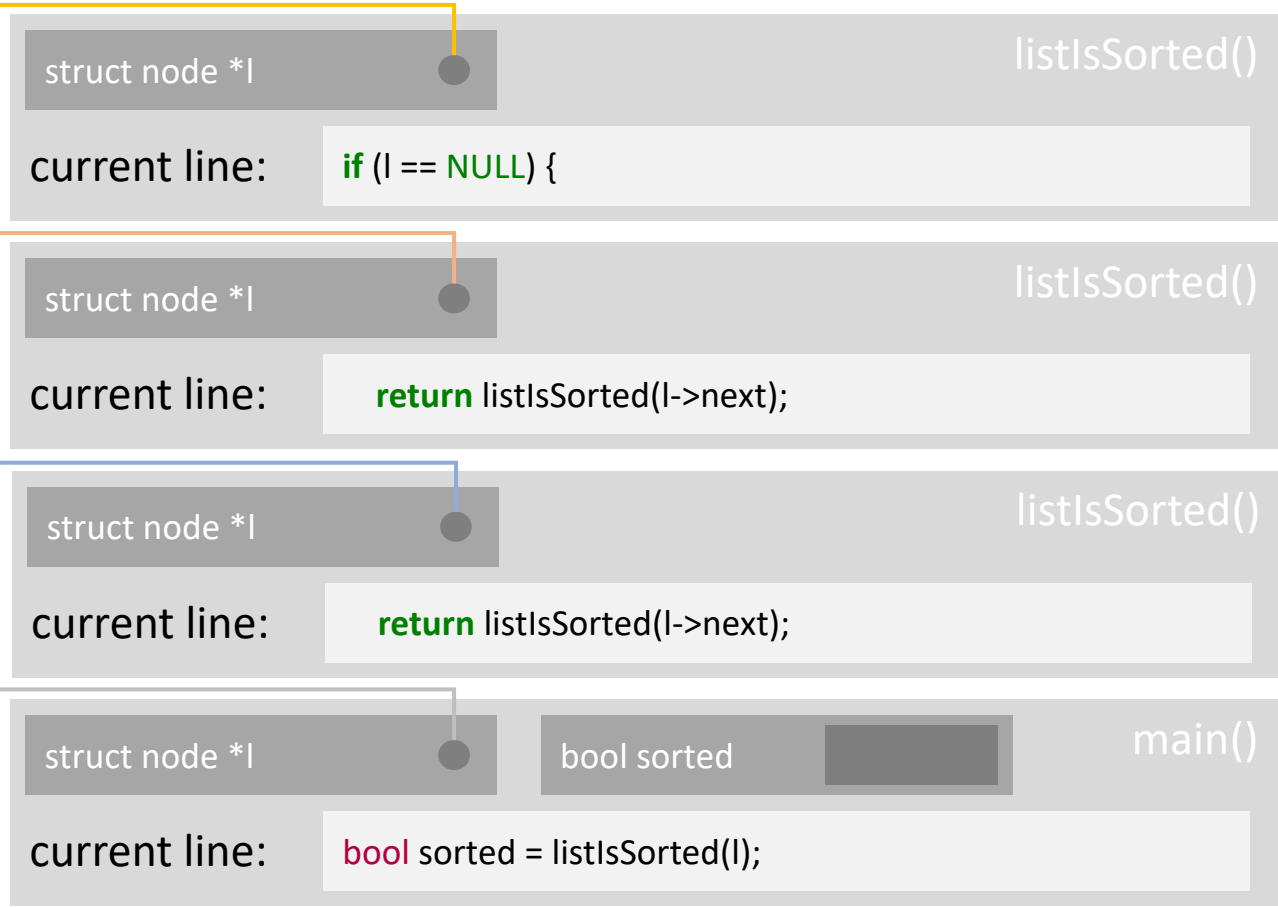

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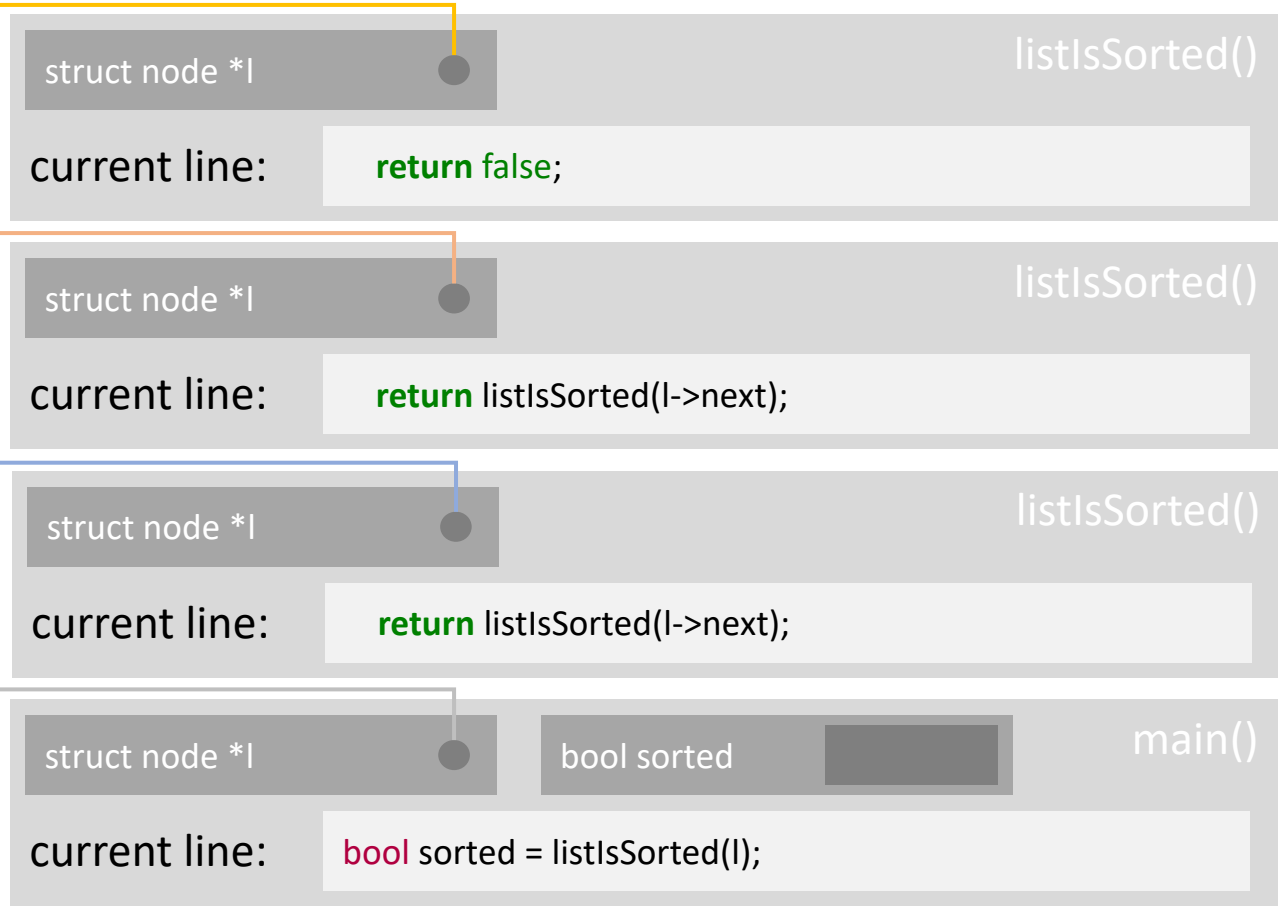
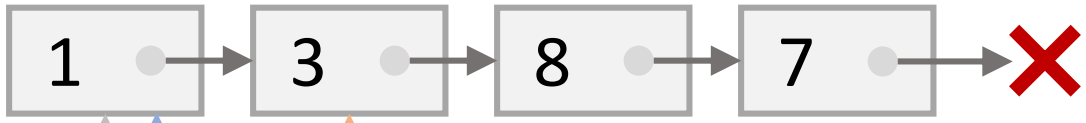


listIsSorted: Ex 2

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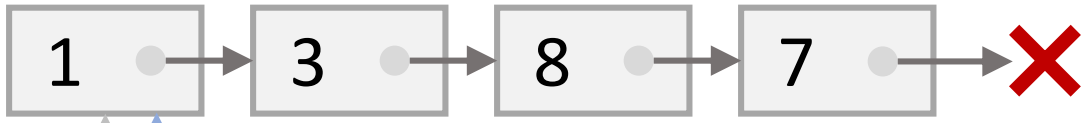


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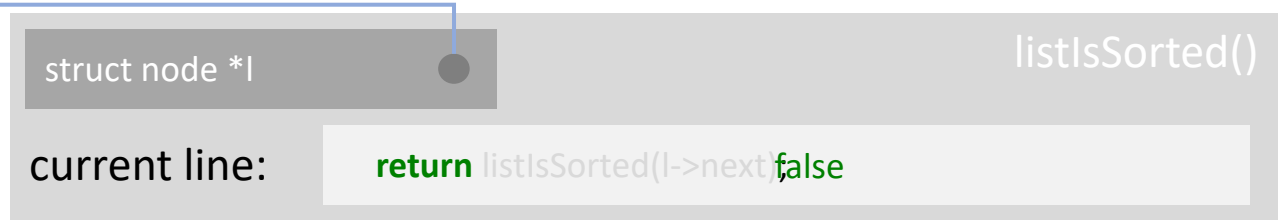

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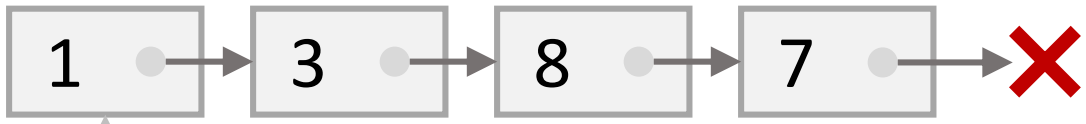


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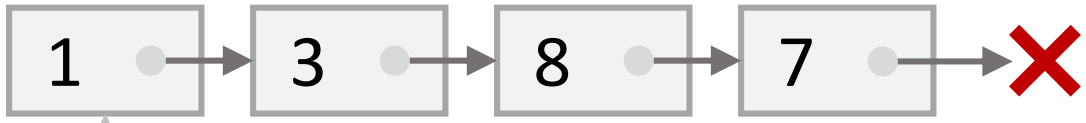


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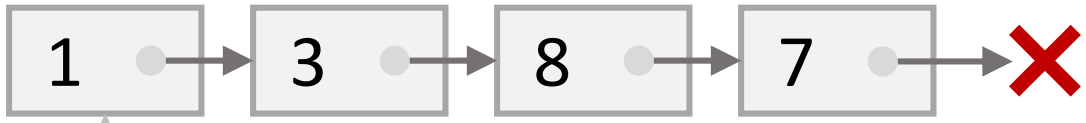


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