

**10.2-1.**

Can you implement the dynamic-set operation INSERT on a singly linked list in  $O(1)$  time? How about DELETE?

**Answer.**

It is possible to implement an  $O(1)$  time insertion procedure on a singly linked list.

```
LIST-INSERT( $L, x$ )  
1   $x.next = L.head$   
2   $L.head = x$ 
```

However, it is impossible to implement an  $O(1)$ -time DELETE on a singly linked list, for there is no way to find the predecessor of an element in constant time.

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