

```
typedef char          *Element;
typedef struct ListNode *List;
struct ListNode { Element elem; List next; };
```

```
Element head(List l);
List tail(List l);
int isEmpty(List l);
List emptyList();
List cons(List l, Element e);
List deleteFirst(List l);
```

■ Listenlänge

```
unsigned int length(List l) {
    unsigned int res = 0;
    for( res = 0 ; !isEmpty(l) ; l = l->next ) res++;
    return res;
}
```

■ Einfügen in eine Liste

```
List insertAt(List l, unsigned int idx, Element e) {
    List run = l;
    if( idx == 0 ) return cons(l, e);
    for( ; idx > 1 ; idx-- ) {
        assert( !isEmpty(run) );
        run = run->next;
    }
    run->next = cons(run->next, e);
    return l;
}
```