CSCE 330 Fall 2006

Quiz 16

Assigned Tuesday, 06-11-28

A recursive function has two parts, the *basis* and the *inductive step*.

1. The basis computes the result for sufficiently small arguments, without making any recursive call.
2. The inductive step calls the function recursively, with smaller arguments.

The following recursive function (which is intended to reverse a list) breaks one of these two rules. Which one? In which way?

```
fun reverse(L) =
  if L = nil then nil
  else reverse(L) @ [hd(L)];
```

Answer: The second, because the recursive call does not have a smaller argument.