CSCI 330 Fall 2002

Quiz 20

Assigned Friday 02/11/22

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 and which is almost identical to the correct version we discussed in class on Monday) 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 one; the argument to reverse is L, which is not smaller than L.