CSCE 330 Fall 2005

Quiz 19

Assigned Wednesday, 05-11-02

1. What does the alphanumeric identifier `'Z` stand for in ML? **Answer**: a type.
2. What does the alphanumeric identifier `''Z` stand for in ML? **Answer**: an equality type.
3. What is the domain of = `''Z * ''Z`? **Answer**: the set of pairs of one equality type.

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) 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).