CSCE 330 Fall 2000

QUIZ 29

Assigned Friday 00/11/17

Use *reduce* to write an ML function that computes the conjunction (logical *AND*) of a list of Boolean constants. Use an auxiliary function *conj* of two arguments to evaluate the conjunction of two Boolean constants.

Answer: there are many possible answers. Here are three. (For completeness, I also include (the non-Curried version of) reduce.)

```
exception EmptyList;

fun reduce (F,nil) = raise EmptyList
|   reduce (F, [a]) = a
|   reduce (F, x::xs) = F (x, reduce (F,xs));

(* **** *)

fun conj (true, true) = true
|   conj (_,_) = false;

fun conjlist L = reduce (conj, L);

(* **** *)

fun conj (x,y) = x andalso y;

fun conjlist L = reduce (conj, L);

(* **** *)

fun conjlist L = reduce (fn (x,y) => x andalso y, L);

(* **** *)
```