1. Prove that the definition of \texttt{APPEND} is associative. In other words, 
\texttt{APPEND(x,APPEND(y,z))} \equiv \texttt{APPEND(APPEND(x,y),z)}. [Hint: use induction on the length of the list bound to \texttt{x}.]

2. Show how the \texttt{FLAT} function can be transformed to yield the \texttt{FLAT2} function using the transformations we described in class for adding an accumulator variable and thereby making the function be tail recursive. The \texttt{FLAT} and \texttt{FLAT2} functions are given in the book \textit{Notes on Data Structures} although in class we used the name \texttt{FLAT} to correspond to the \texttt{FLAT2} function.