QUIZ!
Use a full sheet of 8½x11" paper. (Half sheet? Half credit!)

Put **only your last name** in the **far upper left hand corner** of the sheet, where a staple would hit it. It's OK to write **BIG**, just start in the corner!

**AVOID A ½-POINT DEDUCTION!**

Keep answers short! Avoid full sentences. Feel free to abbreviate.

4 questions; 4 minutes; 4 points, plus a ½-point E.C.

Numbering responses may help you avoid overlooking a question.

You may go ahead and number your paper.
1. What would Prolog show for \textbf{A} and \textbf{B} for the following query?
\begin{verbatim}
?- [...,A|B] = [1,2,3,4].
\end{verbatim}

2. Without using \texttt{append}, write \texttt{head(List, Elem)}.

3. Without using \texttt{append}, write \texttt{last(List, LastElem)}.

4. What are two predicates that can be used, respectively, to add or remove facts?

EC ½ point: Write \texttt{g(L,E)} that generates each element of \texttt{L} twice:
\begin{verbatim}
?- g([a,b],E).
E = a ;
E = a ;
E = b ;
E = b ;
false.
\end{verbatim}
Solutions

1. What would Prolog show for \textbf{A} and \textbf{B} for the following query?

\begin{verbatim}
?- [_,A|B] = [1,2,3,4].
A = 2, B = [3, 4].
\end{verbatim}

2. Without using \texttt{append}, write \texttt{head(List,Elem)}.

\begin{verbatim}
head([H|_],H).
\end{verbatim}

3. Without using \texttt{append}, write \texttt{last(List, LastElem)}.

\begin{verbatim}
last([X],X).
last([_|T],X) :- last(T,X).
\end{verbatim}

4. What are two predicates that can be used, respectively, to add or remove facts? \texttt{assert} and \texttt{retract}

\textbf{EC}: Write \texttt{g(L,E)} that generates each element of \textbf{L} twice.

\begin{verbatim}
g([H|_],H).
g([H|_],H).
g([_|T],E) :- g(T,E).
\end{verbatim}