Peter Chinetti

CS 440 Assignment: Prolog Cut Operator

1. Prop:

```
\begin{array}{rll} prop\left(X,R\right) \; :- \; \; prime\left(X\right), \; R \; \; \mathbf{is} \; \; prime\,; \\ & \; odd\left(X\right), \; R \; \; \mathbf{is} \; \; odd\,; \\ & \; even\left(X\right), \; R \; \; \mathbf{is} \; \; Even\,. \\ even\left(X\right) \; :- \; \; 0 \; \; \mathbf{is} \; \; \mathbf{mod}(X,2\,)\,. \\ odd\left(X\right) \; :- \; \; \mathbf{not}\left(even\left(X\right)\right). \end{array}
```

- 2. Max: If A i B, the first line fails, attempts to backtrack, and fails the entire search instead of moving on to line 2. The cut should be at the end of the line.
- 3. Flatten:

```
\begin{array}{l} {\rm flatten}\;(\,[\,]\;,[\,]\,)\;.\\ {\rm flatten}\;(\,[H|A]\;,[H|A]\,)\;:-\;\;{\rm flatten}\;(A,B)\,.\\ {\rm flatten}\;(\,[L\,|A]\;,Z)\;:-\;\;{\rm is\_list}\;(L)\;,\;\;!\;,\;\;{\rm append}\,(L,A,X)\;,\;\;{\rm flatten}\;(X,Z)\,. \end{array}
```