



Exercise 9.1

(Prolog and SLD Resolution)

- a) For which queries $pp(X)$ does the following Prolog program succeed? Provide an SLD resolution for $pp(f(f(f(a))))$.

```
pp(a).  
pp(f(X)) :- pp(X).
```

- b) What does the following predicate $what(A, B)$ calculate when A is a list of numbers and B is a variable, e.g., $what([3, 7, 4, 2, 6], B)$?

```
what([H|T], I) :- what(T, I), I > H, !.  
what([H|_], H).
```

Exercise 9.2

(The Beauty of Prolog)

- a) Write a Prolog program $sum(L, S)$ that calculates the sum S of a list L of numbers.
b) Write a one-clause Prolog program that calculates the minimum element of a list of numbers.

Remark: You can download SWI-Prolog from <http://www.swi-prolog.org/>.
Or GNU Prolog from <http://www.gprolog.org/>.