Exercise 7: Parameters and Prolog

# Exercise 7.1: Parameters

fun add x = print (x + 1);

val a = 1;

add(a);

print a;

> val add = fn: int → unit;

> val a = 1: int;

> val it = (): unit;

Printed: 2

> val it = (): unit;

Printed: 1

As shown in the example above, the variable a has a value of 1 and is passed into the add() function, where 1 is added to it. In a pass-by-name language, this would make a equal to 2. However, when a is printed again outside the function, it remains 1. This indicates that ML does not use pass-by-name.

# Exercise 7.2: Prolog

Define the isMember predicate so that isMember(X, Y) states that element X is a member of set Y. Do not use the predefined list predicates.

isMember(X, List) :- List = [Head|Tail], (X = Head; isMember(X, Tail)).