

# Chapter 1

## Library basique

Require Import *Bool*.

Compute if *true* then 3 else 5.

Definition *leibniz* (*a b*:Set):Prop :=  
  $\forall f:\text{Set} \rightarrow \text{Prop}, f\ a \rightarrow f\ b$ .

Theorem *imp*:  $\forall (a\ b\ c : \text{Prop}), ((a \rightarrow b) \wedge (a \rightarrow c)) \rightarrow a \rightarrow (b \wedge c)$ .

Proof.

intros.

destruct *H*.

split. apply *H*. assumption.

apply *H1*. assumption.

Qed.

Print *imp*.

Inductive *entiers* : Set := *Zero* : *entiers* | *S* : *entiers*  $\rightarrow$  *entiers*.

Check *entiers*.

Check (*S* (*S* (*S* *Zero*))).