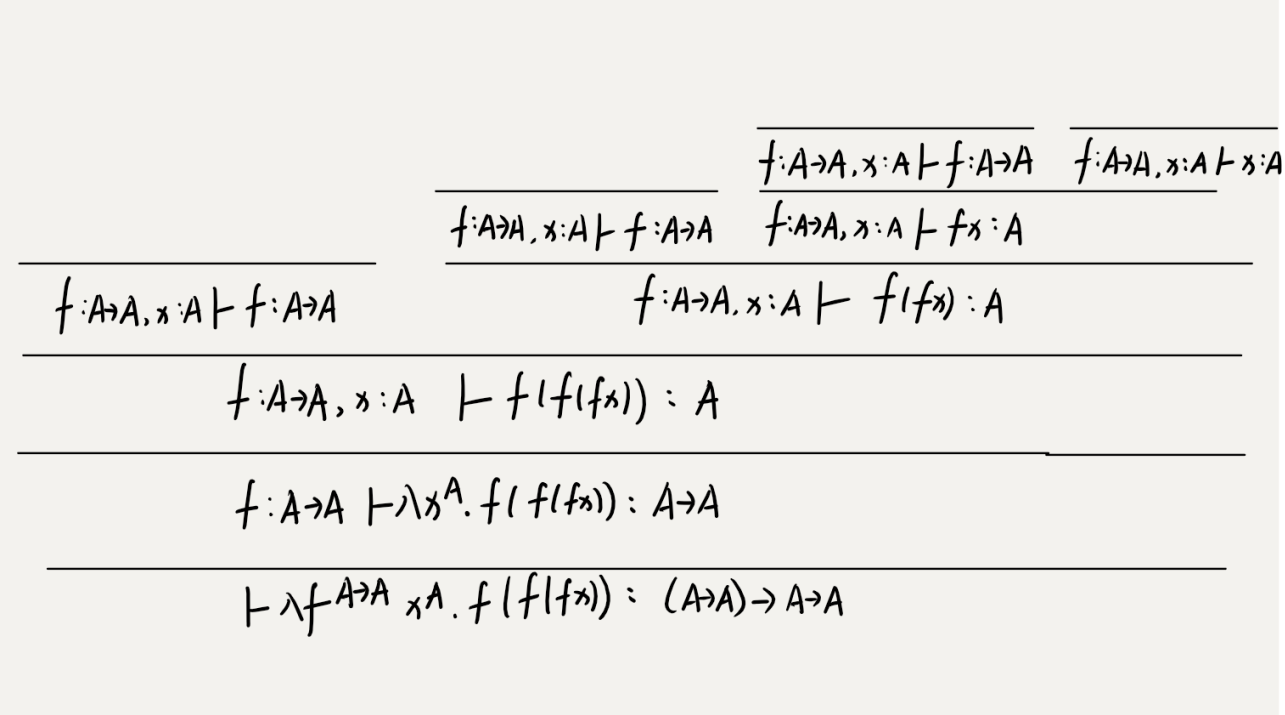
1.



2.3

scratch

```
Inductive fruit:Type:=
  |apple
  |pear.
Inductive food:Type:=
  |rice
  |steak
  |dessert(f:fruit).
(*定义一个函数vegetarian,使得vegetarian f返回true当且仅当f是除了steak之外的食物*)
Definition vegetarian (f:food):bool:=
  match f with
  |steak=>false
  |rice=>true
  |dessert f=>true
  end.
Check dessert.
Check (dessert apple).
Example test_vegetarian1:(vegetarian steak)=false.
Proof. simpl. reflexivity. Qed.
Example test_vegetarian2:(vegetarian rice)=true.
Proof. simpl. reflexivity. Qed.
Example test_vegetarian3:(vegetarian (dessert apple))=true.
Proof. simpl. reflexivity. Qed.
Example test_vegetarian4:(vegetarian (dessert pear))=true.
Proof. simpl. reflexivity. Qed.
```