第一题

```
(** **** Exercise: 2 stars, standard (ev_sum) *)
Theorem ev_sum : forall n m, ev n -> ev m -> ev (n + m).
Proof.
  (* FILL IN HERE *)
  intros n m En Em.
  induction En as [| n' En' IHn'].
  - simpl. apply Em.
  - simpl. apply ev_SS. apply IHn'.
Qed.
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第二题

```
(** **** Exercise: 5 stars, standard, optional (le_and_lt_facts) *)
Lemma le_trans : forall m n o, m <= n -> n <= o -> m <= o.
Proof.
  (* FILL IN HERE *)
  intros n m o E1 E2.
  induction E2 as [  | o' E IHE].
  - apply E1.
  - apply le_S. apply IHE.
Qed.
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第三题

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Example reg_exp_ex3 : ~ ([1; 2] =~ Char 1).
Proof.
  intros H. inversion H.
Qed.
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第四题

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Lemma MUnion' : forall T (s : list T) (re1 re2 : reg_exp T),
  s =~ re1 \/ s =~ re2 ->
  s =~ Union re1 re2.
Proof.
  (* FILL IN HERE *)
  intros T s re1 re2 [H1 | H2].
  - apply (MUnionL _ _ _ H1).
  - apply (MUnionR _ _ _ H2).
Qed.
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