```
"
lemma nonce_secrecy:
" not (
        Ex A B s #i.
            Secret(A, B, s) @ i
         & (Ex #j. K(s) @ j)
         & not  (Ex #r. LtkReveal(A) @ r)
         & not  (Ex #r. LtkReveal(B) @ r)
)"
lemma Customer_session_key_secrecy:
" /* It cannot be that a */
not(
Ex IB Kcib #i #j.
/* Customer has set up a session key 'Kci' with a  Issuing Bank 'IB' */
SessKeyC(IB, Kcib) @ #i
/* and the adversary knows 'Kcib' */
& K(Kcib) @ #j
/* without having performed a long-term key reveal on 'IB'. */
& not(Ex #r. LtkReveal(IB) @ r)
)
"
lemma Customer_authentication_verification_by_IB:
"
( All IB Kcib #i. SessKeyC(IB, Kcib) @ #i
==>
( (Ex #a. AnswerRequest(IB, Kcib) @ a)
| (Ex #r. LtkReveal(IB) @ r & r < i)
)
)
"
lemma message_authentication:
"All cm m #i. Authentic(cm,m) @i
==> (Ex #j. Send(cm,m) @j & j<i)
| (Ex Me #r. Reveal(Me)@r & Honest(Me) @i & r < i)"
end
```