The presentation composed of two files A_presentation is for page 1, 2 and 3. The B_presentation serves as page 4-8. In fact, in the presentation I didn't use page no. 7 but rather explain it on the blackboard.

The General idea to prove the theorem is try to use the existing injections and somehow generate a bijection between A and B.

To achieve this, we try to find a partition which can make both new f : A1->f(A1)and new g: (B-f(A1))->(A-A1) surjective. Then we get h as the union of the new f and the inverse of new g. And h is bijective.

Key to this is to find a right A1 such that A-A1 = g(B-f(A1)).

Some books say that A1 should be the smallest of all qualified A0s satisfying the two conditions but I don't see how this conclusion is reached. Anyway, finally, we guess that the intersection of all qualified A0s to be A1 and we prove it is true.

The prove is a little tricky but if we sit there and read carefully the books it's not that difficult.

Since I edit all the files at MS Office, when transfer to StarOffice, some of the drawings are not distorted a bit, which I don't know how to correct them. Anyway not a bit deal.

The basic idea to prove the theorem came from several books and websites. They are:

<<Sets and Transfinite Numbers>> by Martin M.Zuckerman Published by Macmillan Publishing Co., Inc. 1974.

Thode Library QA 248.Z8

<<Set Theory And Logic>> by Robert R.Stoll, Published by W.H.Freeman and Company, 1961 and 1963.

Thode Library QA 248.S7

<<Set Theory: An Intuitive Approach>> by Shwu_Yeng T.Lin and You_Feng Lin, Published by Houghton Mifflin Company 1974.

Thode Library QA 248.L54

http://www.mathreference.com/set-card,sbt.html