Russell’s Paradox

Russel’s Paradox states that the set of all sets that are not members of themselves must contain itself. It is impossible for the set of all sets that are not members of themselves to contain itself, because then it is no longer the set of all sets that do not contain themselves. This can be written as S = {T : T http://whatis.techtarget.com/WhatIs/images/elem-not.gif T}, where S is the set of all sets that do not contain themselves. This paradox occurs because S is allowed to be an element of S. One way to resolve the paradox would be to state a rule that wouldn’t allow S to be an element of itself. I thought of this as a computer program in which you want to create a set of every set that is not a member of itself. Once the program has compiled a set of all of the sets that do not contain themselves it would attempt to add the set it just created. This would generate an error because the program would recognize that the set now contained itself. So before the program adds S (The set of all sets that are not members of themselves) to the set we would need to add a statement to the program that would instruct it to exclude every set except for the final set S. This resolution would still allow set notation to be used and it would allow us to avoid the paradox. Another example of this paradox is that of an imaginary book that lists every book that does not reference itself. Since the book lists all of the books that do not reference themselves, the book must reference itself because it wouldn’t be listed since it does not mention itself. Similar to my resolution of Russel’s Paradox, an exception could be created by the author of the book that would not require the book to mention itself.