Your assignment is to create a robust string class that does not use the standard template library (STL). In other words, you are not allowed to use #include <vector> or #include <list>. Of course you are not allowed to use #include <string> because that is what we are trying to implement! You will need to use #include <iostream> because your string class will have to work with the insertion and extraction operators. It is OK to use #include <cassert>. You should not use any of the functions associated with the C Standard Library such as strlen(), strcpy(), or strcmp(). You should be able to write these functions youself. The following common string manipulation operations must be present:

* **Display**: Put the contents of the String on the screen.
* **Input**: Accept input from the user both word and line level.
* **Copy**: Copy from a c-string to a String object, from a String object to a c-string, and between String objects.
* **Clear**: Set the contents of a String to be empty.
* **Append**: Append a string with the right-hand side being either a c-string or a String object.
* **Compare**: Compare two Strings (greater than, equal, or less than). This should work with both String objects and c-strings on either the left-hand side or the right-hand side.