English Adjective Comparison in `xfst`

1. The verb"sing" has the forms "sang" and "sung"

   - Write a regular expression which allows you to *look up* any of these forms and get "sing", i.e.

     ```
     xfst[1]: up sang
     xfst[1]: sing
     ```

   - Draw the corresponding FST

2. Design and compile a network which has the following behaviour

   ```
   xfst[] up black
   black
   xfst[] up blacker
   black
   xfst[] up blackest
   black
   ```

3. Modify the network to handle the forms of "green".

4. Modify the network to perform morphological analysis i.e. it should give the part of speech as well as the degree of comparison, if applicable

   ```
   xfst[] up green
   green+ADJ
   xfst[] up greener
   green+ADJ+CMP
   xfst[] up greenest
   green+ADJ+SUP
   ```

5. What happens when you add the word "blue"? What is the nature of the problem?

6. Informally, how would you describe what has to be done to eliminate the problem? Remember that there are perfectly good words in English like "beer" and your solution must leave those words alone.

7. (a) Handle all forms of the word "hot"
   (b) What other adjectives behave like this?
   (c) How can they be added?

8. Handle all forms of the word "good"