> Write a program to do the following in C++. 10 marks for coding style (variable names, indentation, modularity, comments, error handling etc)

1. Read a red-black tree as input.You can do this either from the console or a file. You have the freedom to use an input format of your choice. Please note that this will *not* be the same as insertion into a red-black tree; the tree topology along with the key values will be specified by the user. (10 marks)

2. If the tree entered is not a valid red-black tree, report error. (5 marks)

3. Otherwise, ask for a node to be deleted, delete the node and print the intermediate (potentially non-red-black) tree after each transformation and the final red-black tree. (10 marks)