give an example of a build in self-balancing tree in c++

break the rotation down step by step

how to time a function in c++ (c uses time.h but I haven’t used chrono)  
<https://www.geeksforgeeks.org/self-balancing-binary-search-trees/>

<https://www.geeksforgeeks.org/introduction-to-avl-tree/>

<https://www.cs.usfca.edu/~galles/visualization/AVLtree.html> -> LOVE this site for visualizations of trees!  
  
The log curve relatively matches what I expected. Towards the end the log curve is somewhat higher than the average of the results which I found to be interesting. I think the results do seem reasonable as they level off somewhere around 1400-1500 nanoseconds.   
  
Also went through and “built” an example of a red and black tree but did not complete the assignment using it. I did this to better understand the rotations and the difference between the two types of trees. I did use GPT to assist with some explanations and guidance with the pointers during rotation.