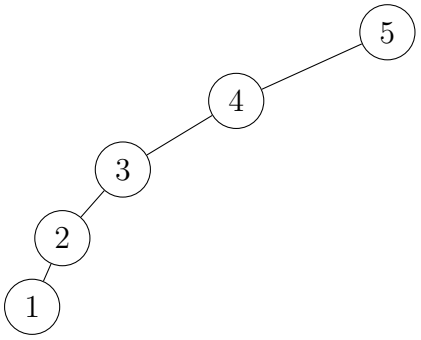
Today's topics: polyphase merging; Reynolds's paper.
Next class: ...

1. List the members of your group below. Underline your name.

2. Depict the transformations to the following *top-down splay tree* in response to the access pattern $1, 2, 3, 4, 5$. Depict all splay operations clearly, including the left and right trees, and highlight the tree after all operations for each insertion have completed.



[additional space for answering the earlier question]

3. Describe, for a beginning programmer, the k-way merge-sort algorithm using $2k$ tapes (for k a runtime parameter).

4. Describe, for a beginning programmer, the k-way polyphase merge-sort algorithm using $k+1$ tapes (for k a runtime parameter).

5. Refer to Reynolds's paper[1] on generalized polyphase merging. List the first 20 k-generalized Fibonacci numbers for $k = 2, 3, 4, 5$.

[1]Samuel W. Reynolds, "A Generalized Polyphase Merge Algorithm," *Communications of the ACM* 4/8 (1961).

6. Using ideas from Reynolds's paper on generalized polyphase merging, describe how to determine the initial distribution of sorted runs on tapes for a k-way polyphase merge sort. Provide illustrative examples.