Binary Search & Binary Trees

1. Starting from an empty binary search tree, create the binary search tree with the letters:

P, R, I, N, C, E, T, O, N

- a. What keys are examined when we search for E?
- b. What keys are examined when we search for Q?
- 2. Which of the following is not a valid binary search tree? Of the valid ones, which is fastest to search?



- **3.** Suppose we have integer values between 1 and 1000 in a BST and search for 363. Which of the following cannot be the sequence of keys examined?
 - a. 2, 252, 401, 398, 330, 363
 - b. 399, 387, 219, 266, 382, 381, 278, 363
 - c. 3, 923, 220, 911, 244, 898, 258, 362, 363
 - d. 4, 924, 278, 347, 621, 299, 392, 358, 363
 - e. 5, 925, 202, 910, 245, 363