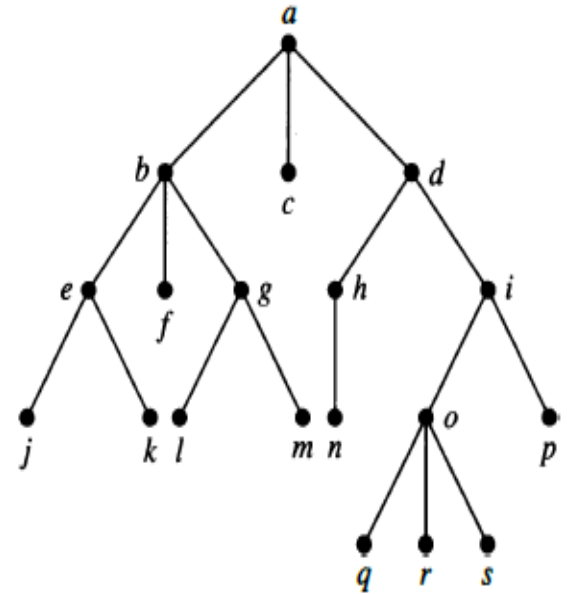


**CSE 1203 Final Assignment 2nd Semester Section A+B
Summer 2024**

1. Answer the following questions for the rooted tree illustrated.

- a) Which vertex is the root?
- b) Which vertices are internal?
- c) Which vertices are leaves?
- d) Which vertices are children of j ?
- e) Which vertex is the parent of h ?
- f) Which vertices are siblings of o ?
- g) Which vertices are ancestors of m ?
- h) Which vertices are descendants of b?



2. Suppose that someone starts a chain letter. Each person who receives the letter is asked to send it on to six other people. Some people do this, but others do not send any letters. How many people have seen the letter, including the first person, if no one receives more than one letter and if the chain letter ends after there have been 50 people who read it but did not send it out? How many people sent out the letter?

3. What is the value of each of these prefix expressions?

- a) $- * 2 / 8 4 3$
- b) $\uparrow - * 3 3 * 4 2 5$
- c) $+ - \uparrow 3 2 \uparrow 2 3 / 6 - 4 2$
- d) $* + 3 + 3 \uparrow 3 + 3 3 3$

4. What is the value of each of these postfix expressions?

- a) $5 2 1 - - 3 1 4 ++ *$
- b) $9 3 / 5 + 7 2 - *$
- c) $3 2 * 2 \uparrow 5 3 - 8 4 / * -$