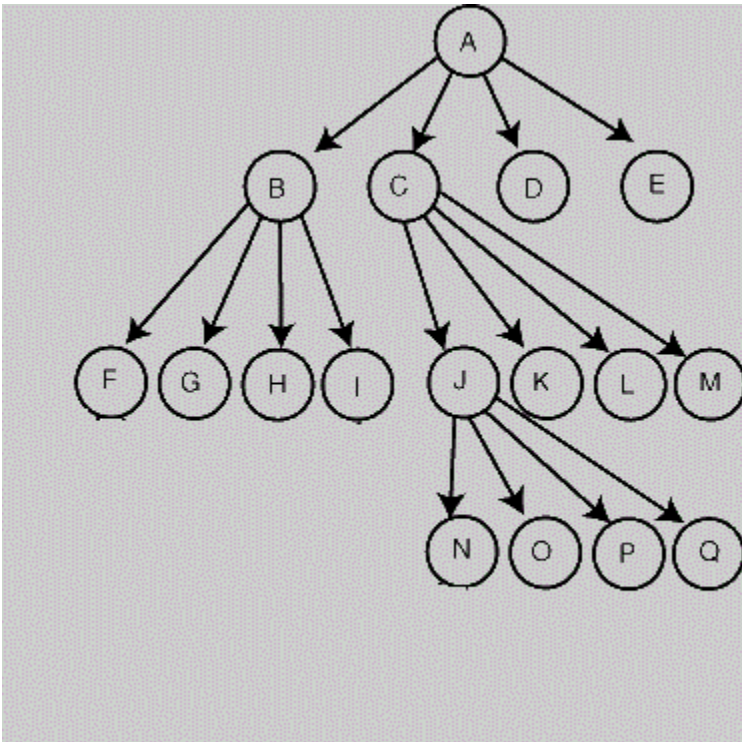


## Search Space Practice Problems

Problem #1

Consider the following search tree

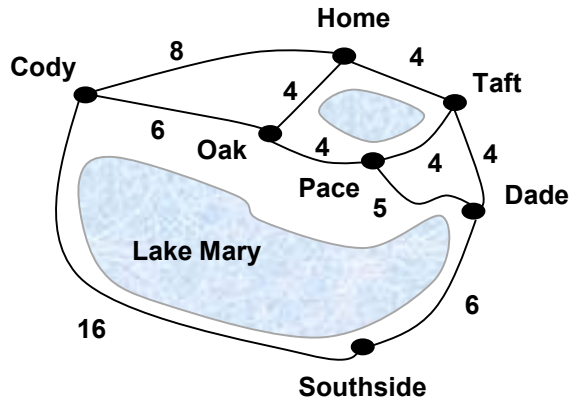


If we are searching for Node N, what order would the nodes be visited in a Breadth-First Search?

If we are searching for Node N, what order would the nodes be visited in a Depth-First Search?

Problem #2

For the following map:



Straight line distance to Southside from:

Cody	11
Dade	5
Home	9
Oak	7
Pace	6
Taft	8

- Draw the search tree generated by a breadth-first search in finding a path from Home to Southside. What is the found path?
- Draw the search tree generated by a depth-first search in finding a path from Home to Southside. You may assume that the left (west) most child is expanded first. What is the found path?
- Draw the search tree generated by a depth-first search in finding a path from Home to Southside. You may assume that the right (east) most child is expanded first. What is the found path?

Problem #3

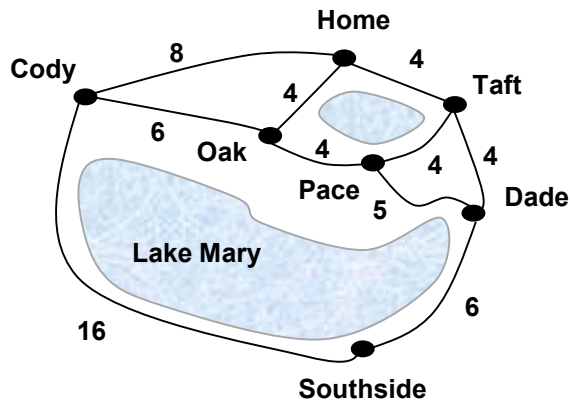
Draw the search tree that would be generated by a breadth-first search when solving the eight-puzzle from the starting configuration below.

```
1 2 3
4 5 6
 7 8
```



Problem #6

For the following map:



Straight line distance to Southside from:

Cody	11
Dade	5
Home	9
Oak	7
Pace	6
Taft	8

Draw the search tree generated by a best-fit search in finding a path from Home to Southside assuming that "the straight line distance to Southside" were used as the heuristic. What is the found path?