Implementation of Data Structures and Algorithms
Short Project 6: Breadth First Search Applications

Version 1.0: Initial description (02/20/20).
Due: Sunday, March 2020 at 11:59 PM

Do not modify Graph.java, BFSOO.java
Submission procedure: same as usual.

Team task:

1. Implement a BFS based algorithm to output an odd-length cycle of a graph. If the graph is bipartite, it returns null. Do not modify Graph.java and BFSOO.java Use them from package idsa. Make sure that the returned list has the vertices in order along the cycle.

```
List<Vertex> oddCycle(Graph g) { ... }  // do not assume that g is connected
```

Practice task (optional):

2. Implement the algorithm to find the diameter of a tree using BFS. Code this algorithm without modifying Graph.java and BFSOO.java, using them from package idsa.

```
int diameter(Graph g) { ... }  // assume that g is an acyclic, connected graph (tree).
```