

# Quiz 1

19 September 2012

1. Below is a fragment of a C program to construct a graph. Draw a representation of this graph in the space to the right. The meanings of the four parameters are provided in the comment.

```
// Graph, Source-Node, Destination-Node, Add/Remove?
addEdge( g, 0, 1, 1 );
addEdge( g, 1, 2, 1 );
addEdge( g, 2, 3, 1 );
addEdge( g, 2, 4, 1 );
addEdge( g, 1, 3, 1 );
addEdge( g, 4, 5, 1 );
addEdge( g, 5, 3, 1 );
addEdge( g, 3, 6, 1 );
```

2. Which of the following are plausible sequences of nodes in the above graph when visited by a breadth-first search starting at 0?
- 0, 1, 3, 2, 4, 6, 5
  - 0, 1, 2, 3, 6, 4, 5
  - 0, 1, 2, 4, 5, 3, 6
  - 0, 1, 2, 3, 6, 4, 5
3. The \_\_\_\_\_ data structure is LIFO, whereas the \_\_\_\_\_ data structure is FIFO.
4. Below is a graph with a *cost* associated with each edge. What is the minimum-cost path from A to G?

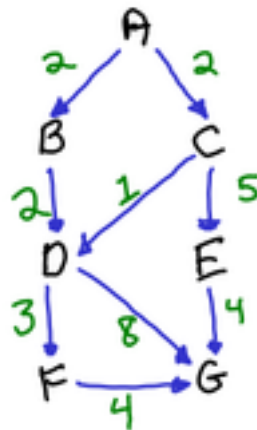


Figure 1: