Graphing the Spread of Disease Assessment Answer Key
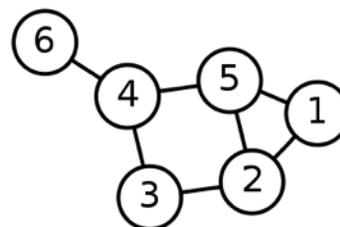
1. **What is the vertex list for this graph?**

   1, 2, 3, 4, 5, 6

2. **What is the edge list for this graph?**

   (1, 2), (1, 5), (2, 3), (2, 5), (3, 4), (4, 5), (4, 6)

3. **What is the adjacency matrix for this graph?**

   Adjacency matrix

   $$\begin{matrix} 0 & 1 & 0 & 0 & 1 & 0 \\ 1 & 0 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 & 1 \\ 1 & 1 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{matrix}$$

4. **What is the adjacency list for this graph?**

   Adjacency list

   {1 2 5}
   {2 1 3 5}
   {3 2 4}
   {4 3 5 6}
   {5 1 2 4}
   {6 4}

5. **Starting at vertex 1 and using a DFS search, what would be the visitation order of the vertices? Do the same for a BFS search.**

   A DFS search has a visitation order of: 1, 2, 3, 4, 5, 6
   A BFS search has a visitation order of: 1, 2, 5, 3, 4, 6