

Kevin Yangerman  
Lab 5

2) a)

Convert to Adj List

1 if statement, 1 for loop  $= 1 \times n$

2nd for loop inside first loop  $= 1 \times n^2$

3 assignments,  $= 4 \times n^2$

convert to AdjList  $= O(n^2)$

b) In my implementation, the size of the input depends on the number of vertices. The `adjMatrix.length` returns the number of rows in the matrix, which is equal to the number of vertices

c) with my implementation, the conversion from adjlist to adjMatrix would need a nested for loop, making the time complexity  $O(n^2)$ .