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**Project 1 Commentary**

Why did you choose the implementation you did?

* I chose a linked list using the STL library and created a node struct that held all the information I needed. I went with this approach because it seemed to make the most sense when dealing with a sparse matrix that could contain no zeros. I could easily delete and shift the nodes without worrying about resizing like you would in an array. The STL library also has all the functions needed and I didn’t have to create any helper functions to assist for the linked list.

What did you learn from doing this assignment?

* I learned about how more complex recursive statements run and how to follow the statement and debug where an error might have occurred. I also learned how to better utilize iterators and their properties. An example would be instead of creating a simple for loop and helper functions to find values, an iterator could do the same in less time with the appropriate application. Finally, I was reminded how important comments, especially for yourself, so you remember what you were doing in sections of your code.

What is the computational complexity of the operations in your matrix implementation?

* readMatrix – O(ab)
* findMinor – O(n)
* determinantOfMatrix – O(a2b)

What was the hardest part of this assignment?

* The hardest part of the project for me was figuring out how to determine the minor. My initial solution was to delete the rows and columns and return the matrix as is without shifting the remaining elements up or left, which caused problems with the signs. I eventually realized that it was necessary to return a shifted matrix so that the determinant algorithm could determine the correct sign.