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Data Structure Narrative

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This artifact was created because it showcases my ability to create a circular doubly linked list. The linked list also has the function of creating a playlist and allowing the user to add songs to anywhere in the linked list. It was created this past week using an array list program as guidance. The array list was a program that created a playlist, added songs and allowed users to move forward in the playlist. I wanted to improve upon the function of that array list and turn it into a circular doubly linked list.

The artifact demonstrates several program outcomes. First, the artifact demonstrates the ability to use innovate skills and techniques to design solutions. The array list needed to be improved upon and creating a doubly linked circular list was the optimal way to do this. The data structure itself demonstrates my ability to work with data structures more complex than an array list. The pre planning stage and writes up previously submitted demonstrate that I am able to clearly articulate my ideas and implement them into a working product.

Creating this linked list was a big undertaking for me. I have never designed and used a circular doubly linked list before. I had to research how to even create the nodes of the list. After that I had to research how to connect them. A doubly linked list is a bit more involved than just a linked list. This is due to the node being connected to both the next and previous node as well as containing data in the node itself. Creating the circular portion was probably the easiest aspect once I had learned how to connect the nodes to the previous and next nodes. The tail simply needed to point to the head and the heads previous pointer needed to point to the end.