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Lab #1

A linked list is a data structure with nodes, where each node consists of a value and a pointer pointing to the next node in the linked list. Linked list storage is dynamic, a linked list will not take a fixed size of contiguous memory, since it will be using pointers to find where the next value is, but if a pointer is lost the entire linked list will not be accessible. A linked list can be used for music player songs in the music are linked to the previous and next song, linked lists are also used in webpages to store the previous and next URL, allowing users to go back by pressing the back button and next by pressing the next button.

A circular linked list is a linked list with the end node pointing back to the head node, unlike a linked list it the end node points to null. In a circular linked list whenever inserting a value of a linked list the time complexity is O(n) since it must traverse through the entire linked list when a new node is inserted. One advantage of a circular linked list compared to a singly linked list is in circular linked list it can traverse through the entire list from any node since the end node will always point to the head node. A circular linked list is used in an operating system, they are used for Round Robin Algorithm, which is used to make sure each process gets a certain amount of CPU time, and none of the processes is hoarding the CPU usage.