Lab 6 Questions

Question 1

a. Each node in a single-linked list, has a reference to the next node and the data.
b. In a double-linked list, each node has a reference to the previous node, the next node, and the data.
c. To remove an item from a single-linked list, you need a reference to the node that comes before the node that is to be deleted.
d. To remove an item from a double-linked list, you need a reference to the node itself (the node that is being removed).

Question 2

a. The node nodeRef of type String is set to the node before the last one(the tail). The next of the node before nodeRef is set to point to the tail. The previous of the tail is set to point to the node before nodeRef. noderef is removed as a result.
b. The node nodeRef of type String is set to the head which is the first node. The head is set to a new node which holds the data “Tamika.” The next of the head now points to nodeRef. The previous of nodeRef now points to the new node. The new node was inserted at the beginning of the list.
c. The node nodeRef of data type String is set to a new node which holds “Shakira.” The previous of nodeRef is set to point to the head. The next of nodeRef is set to point to the head’s next. The head’s next node’s previous is set to point to nodeRef now. The head’s next is set to point to nodeRef. nodeRef was inserted right after the head.

Question 3.1

This code first gets the index of “Sam” then creates an iterator at the position of “Sam.” The iterator then goes back one to the position on “Harry.” Then “Harry” is removed from the list.

Question 3.2

The code would give an error when trying to remove the object after “Sam” because there is no object after “Sam.”

Question 3.3

The code would remove “Sam” from the list.