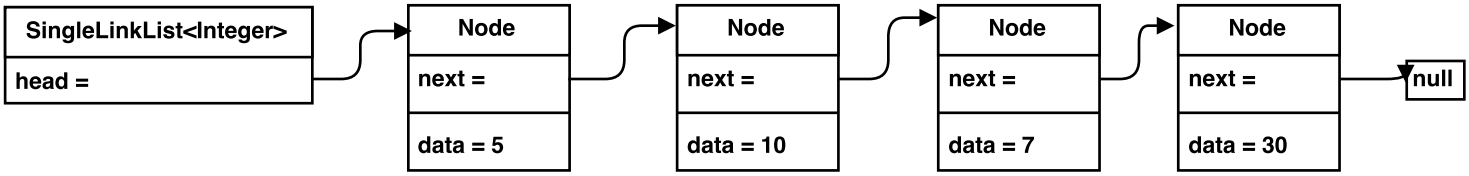
Angel Tapia: Lab06 Self-check 1-5

1) The big-O for the Single-Link get operation is ==> O(n)

2) The big-O for the set operation is ==> O(1)

3) The big-O for the search operation is ==> O(n)

4) Single-linked list containing the integers 5, 10, 7, and 30 and referenced by the head:




```
int sum = 0 ;
Node<Integer> nodeRef = (Node<Integer>) head ;
while ( nodeRef != null) {
        int next = nodeRef.data ;
        sum += next ;
        nodeRef = nodeRef.next ;
}
```

5) Explain the effect in the fragments:

a) head = new Node<>("Shakira", head.next);
Adds a new node to the beginning of the list.

b) Node<String> nodeRef = head.next;
nodeRef.next = nodeRef.next.next;
Adds a new node to the beginning of the list.
Then, removes the next two nodes.

c) Node<String> nodeRef = head;
while (nodeRef.next != null)
nodeRef = nodeRef.next;
nodeRef.next = new Node<>("Tamika");
Traverses the list and adds a new node ("Tamika") to the end of the list.

d) Node<String> nodeRef = head;
while (nodeRef != null && !nodeRef.data.equals("Harry"))
nodeRef = nodeRef.next;
if (nodeRef != null) {
nodeRef.data = "Sally";
nodeRef.next = new Node<>("Harry", nodeRef.next.next);
}
The purpose of this piece of code is to search for **Harry.**
If **Harry** is in the list, **Sally** will be added after **Harry,**
and the rest of the elements in the list will be removed.