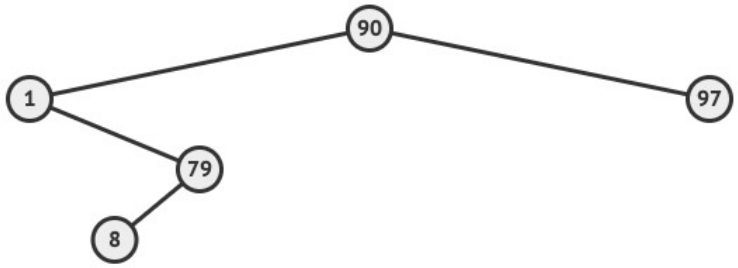
**Data Structures**

Time: 90 Minutes | Midterm – Nov 14, 2019 | Total Marks: 50

**Q1:** Convert the following expression into postfix. {10}

```
1+8/2*5-4+6-3
```

**Q2:** Do the following operations in sequence on the given Binary Search Tree (BST). Use the updated tree for subsequent operations: {10}




```
a)      insert(94)
b)      insert(85)
c)      insert(96)
d)      insert(82)
e)      erase(90)
```

**Q3:** Write an insert function in **ADT code** for an unsorted linked list which inserts two values at a time. When the function is called like *insert(2,5)*, then these two values should be inserted in the list. This should function should not call any other function. {10}

**Q4:** Write **client code** to merge two queues (q1 and q2) into another queue (q3). At the end of the code, the original queues (q1 and q2) should contain the same values as before. {10}

**Q5:** Write a **client code** function called sum, which takes a linked list as parameter and returns the sum of the elements in the list. Signature of the function should look like *int sum(UnsortedList<int> &u)* {10}