

226 Assignment One: Written

John Curry
V00755720

January 22, 2016

1.
 - a) 1 1 0 0 1 1 0 1 0 0 1 1 0 0
2.
 - a) How many times is k incremented?
K is incremented exactly N times.
 - b) How many times is build() called?
B is called for every internal node and every external node which equals $N + N + 1$;
3. 3 2 1 1 0 0 1 1 2 1
4. If the $id[p]$ is p then the for loop will change the $id[p]$ to q, but the vertices with and
5.

```
      1
     / | \
    0 3 6
     / \ \
    2  7 5
         / \
        4  9
         /
        8
```

It is not the result of a weighted union find because the height of the tree is 4 and the he