

CSSE 220 – Object-Oriented Software Development
 Rose-Hulman Institute of Technology

Worksheet 20

Name (Print): _____ Section: _____

1. Give the Big-O runtime for each of the code snippets below. In each case, n refers to the size of the input array or the integer n itself

```
public static long method1(int[] arr) {
    long result = 0;

    int n = arr.length;
    for(int j = 0; j < n; j++) {
        for(int k = 0; k < 10000; k++) {
            result += (j*k);
        }
    }

    for(int j = 0; j < n; j++) {
        result += (2 * j) - 3;
    }

    return result;
}
```

1) _____

```
public static void method2(int[] arr) {
    int n = arr.length;
    for(int i = 0; i < n - 1; i++) {
        for(int j = 0; j < (n - i - 1); j++) {
            if(arr[j] > arr[j+1]) {
                int temp = arr[j];
                arr[j] = arr[j+1];
                arr[j+1] = temp;
            }
        }
    }
}
```

2) _____

2. ArrayList

```
1 int newNum = list1.get(k); // where 0 <= k < list1.size()
2 //BigO: -----
```

3. ArrayList

```
1 list1.add(0, 100); // where list1.size() > 0
2 //BigO: -----
```

4. LinkedList: A linear dynamic data structure where the elements _____

5. Node consists of : 1) _____ and 2) _____

6. Draw a schematic representation of LinkedList

7. Compare ArrayList and LinkedList for Access, Search, Insertion, Deletion: _____

8. Sketch a `LinkedList<String>` containing the strings "two", "more", and "weeks".