CIS 121 - Quiz 13 - Wednesday, April 30, 2003

Name: ____________________________ Student Number: __________________________

1. (2 pts) Suppose we have an array of size 1024. If the array is sorted, then we can expect to make _______ searches to find an integer using a Binary Search, and _______ searches to find an integer using a Linear Search.

2. (2 pts) Suppose we have an array containing the following five numbers. 15 10 4 7 20. Using the QuickSort, what are the first two swaps that are made?

3. (2 pts) Suppose we have a linked list with the following add method. Assume the linked list has an inner class named Node which is a self-referential structure, and an instance variable called head which is of type Node.

```java
public void add(Object o) {
    head = new Node(o,null);
}
```

Could we use this linked list to implement a Stack?

Suppose we have an instance of the linked list called list and we make the calls list.add("10"); , list.add("20"); , list.add("17"); , and list.add("30"); . After these calls, what are the values in the nodes in the list?

4. (2 pts) Suppose the load factor of a Hashtable is 0.95. Are collisions likely? Why or why not?

5. (2 pts) Enumeration is a ________________ found in the ________________ package which contains the two methods ________________ and ________________.