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1. **Given two N element lists of numbers, how could you determine if the two lists shared any values?**

You would have to linear search, every element of one list in the other (nested for-loop).

1. **What would the big-O complexity of that be?**

Because there is N elements in both lists the big-O complexity would be N2 in the worst case.

1. **What if both lists were sorted - what would the complexity be?**

If the lists are sorted you would be able to do binary search which has a time complexity of log(n). There is N elements in one of the lists, therefore N log(n) time complexity.

1. **If the lists aren't sorted, is it worth sorting them?**

If the number of searches is equal to or exceeds the amount of elements in the list you should sort. Since there will be N searches, you should sort.