

**Quiz 4 Solutions**

Quiz 4 was given in class on Friday, October 9, 2009.

1. [3 pts] Algorithms faster than linear time are rare. Why?

An algorithm requires at least linear time to read all of its input. Thus, it is only possible for an algorithm to be faster than linear time, if it performs a task that does not require it to read all of its input.

2. [2 pts] How does Shlemiel the Painter do his painting?

He leaves the paint can in one place and repeatedly walks back to it to get paint. This takes longer and longer as he works farther and farther from the can.