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Using Big Oh notation, indicate the time requirement of each of the following tasks in the worst case. Describe any assumptions that you make:

1. After arriving at a party, you shake hands with each person there

O(n) since each person must be accessed once

1. Each person in a room shakes hands with everyone else in the room.

O(n!) accessing each person once and then access each other person again

1. You climb a ﬂight of stairs

O(n) since each step must be climbed once

1. You slide down the banister

O(log n) slide to bottom gaining speed, assuming single linear banister

1. After entering an elevator, you press a button to choose a ﬂoor

O(1) Direct access to each floor but only one is chosen

1. You ride the elevator from the ground ﬂoor up to the nth ﬂoor

O(n) access each floor until the n’th floor

1. You read a book twice

O(n) Access each page once, then again