Worksheet #29:
Liveness Guarantees

Name: _____   Netid: _____

```
/** Atomically adds delta to the current value.
 *
 * @param delta the value to add
 * @return the previous value
 */
public final int getAndAdd(int delta) {
    for (;;) {
        int current = get();
        int next = current + delta;
        if (compareAndSet(current, next))
            // commit
            return current;
    }
}
```

Assume that multiple tasks call getAndAdd() repeatedly in parallel. Can this implementation of getAndAdd() lead to a) deadlock, b) livelock, c) starvation, or d) unbounded wait? Write and explain your answer below