

10/23/2019
ECE 485

//atomic operations //once starts, it will finish without being interrupted
(transaction in DB)

```
x = 5; //atomic
x += 5; //not atomic
x = f(); //not atomic
```

```
class MyThread extends Thread {
    private int[] a;
    private int[] b;
    private int[] c;
    private int first;
    private int last;
```

```
public MyThread(int[] x, int[] y, int[] z, int f, int l) {
    a = x;
    b = y;
    c = z;
    first = f;
    last = l;
}
```

```
public void run() {
    for (int i = first; i <= last; i++) {
        c[i] = a[i] + b[i];
    }
}
```

```
t1.start();
t2
t3
t4
t1.join();
t2
t3
t4
```



```
int[] a = new int[100];
b =
c =
MyThread t1 = new MyThread(a, b, c, 0, 24);
t2 = 25, 49
t3 = 50, 74
t4 = 75, 99
```

shared
false sharing, elements don't overlap
interleaving don't cause problems