

## Review - sync Objects

### Mutex

```
mutex m;  
lock_guard<mutex> lck(m);  
unique_lock<mutex> lck(m);
```

### Condition Variable

```
unique_lock<mutex> lck(m);
```

```
while (!bready)
```

```
cv.wait(lck);
```

} waiting

```
{ lock_guard<mutex> lck(m)  
  bready = true;
```

```
{ cv.notify_all();
```

} notifying

tools  
to  
solve

## want to solve producer-consumer.

1 Thread produces, 1 consumes

① producer is in charge, tells consumer to get to work

② consumer just waits to work & then does so

2 ways

① producer produces & notifies :-  
consumer waits on producer then consumes

② producer produces → notifies → waits on consumer  
consumer waits on producer then notifies producer then consumes

# Outline Globals

gCount // tracks widgets  
bDone // finished  
bPO // produced one  
cv  
mu

