Example: Synchronizing Traffic

```
monitor tunnel {
  int northbound = 0, southbound = 0;
  trafficSignal nbSignal = RED, sbSignal = GREEN;
  condition nbusy, sbusy;
public:
  nbArrival() {
    if(southbound > 0) sbusy.wait();
    northbound++;
    nbSignal = GREEN; sbSignal = RED;
  };
  sbArrival() {
    if(northbound > 0) nbusy.wait();
    southbound++;
    nbSignal = RED; sbSignal = GREEN;
  };
```

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Example: Synchronizing Traffic

```
depart(Direction exit) (
    if(exit = NORTH {
      northbound--;
      if(northbound == 0)
            while(sbusy.queue())
                sbusy.signal();
    else if(exit == SOUTH) {
      southbound--;
    if(southbound == 0)
            while(nbusy.queue())
                nbusy.signal();
  }
 }
}
```

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Monitor implementation of a ring buffer

```
monitor ringBufferMonitor {
  stuff ringBuffer[slots];
   int slotInUse = 0;
   int nextSlotToFill = 0;
   int nextSlotToEmpty = 0;
   condition ringBufferHasData, ringBufferHasSpace;
fillASlot(stuff slotData) {
        if(slotInUse == slots) then ringBufferHasSpace.wait;
        ringBuffer[nextSlotToFill] = slotData;
        slotInUse++;
        nextSlotToFill = (nextSlotToFill+1) % slots;
        ringBufferHasData.signal;
   }
```

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Monitor implementation of a ring buffer...

```
emptyASlot(stuff slotData) {
        if(slotInUse == 0) then ringBufferHasData.wait;
        slotData = ringBuffer[nextSlotToEmpty];
        slotInUse--;
        nextSlotToEmpty = (nextSlotToEmpty-1) % slots;
        ringBufferSpace.signal;
  }
```

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