

Producer Consumer

# Producer Consumer

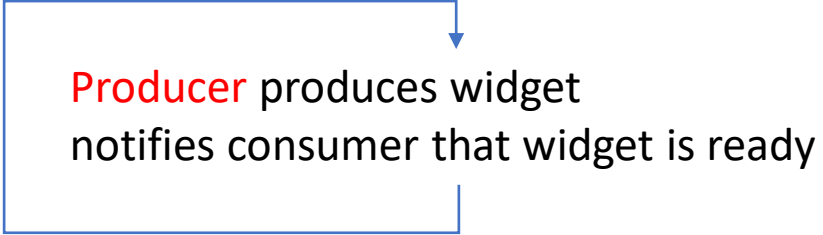
- One thread produces widgets
- One thread consumes widgets
- Producer thread is in charge- tells consumer to get to work
- Consumer thread waits until told to work and then does so

# Producer Consumer

- Can do it 2 ways;

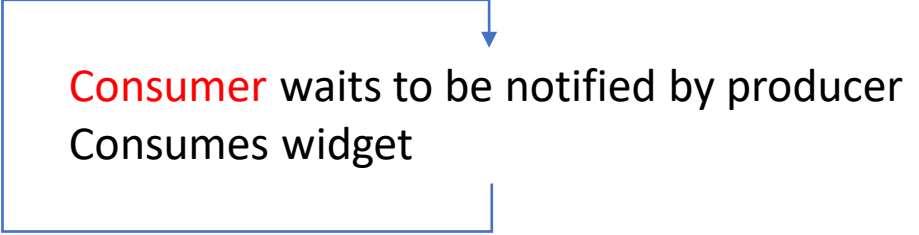
# Producer Consumer

- Can do it 2 ways;
- Partially coordinated: No confirmation from consumer



The diagram shows a blue rectangular box with a downward-pointing arrow at the top center. Inside the box, the text reads: 'Producer produces widget' and 'notifies consumer that widget is ready'.

Producer produces widget  
notifies consumer that widget is ready




The diagram shows a blue rectangular box with a downward-pointing arrow at the top center. Inside the box, the text reads: 'Consumer waits to be notified by producer' and 'Consumes widget'.

Consumer waits to be notified by producer  
Consumes widget

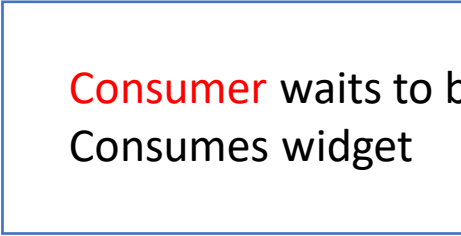
# Producer Consumer

- Can do it 2 ways;
- Partially coordinated: No confirmation from consumer



**Producer** produces widget  
notifies consumer that widget is ready

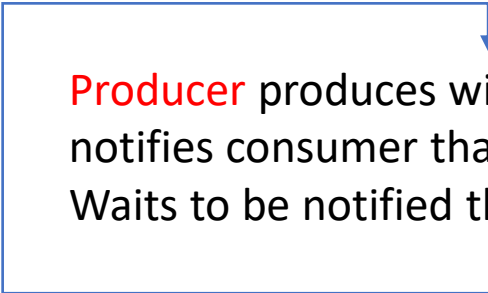
The diagram shows a blue rectangular box with a blue arrow pointing downwards from the top center to the text inside. The text is left-aligned and describes the producer's actions in a partially coordinated system.



**Consumer** waits to be notified by producer  
Consumes widget

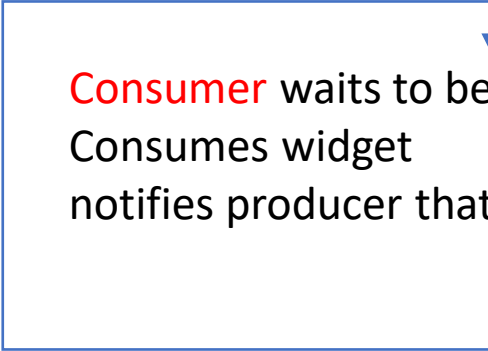
The diagram shows a blue rectangular box with a blue arrow pointing downwards from the top center to the text inside. The text is left-aligned and describes the consumer's actions in a partially coordinated system.

- Coordinated: lockstep coordination between producer and consumer



**Producer** produces widget  
notifies consumer that widget is ready  
Waits to be notified that widget consumed

The diagram shows a blue rectangular box with a blue arrow pointing downwards from the top center to the text inside. The text is left-aligned and describes the producer's actions in a fully coordinated (lockstep) system.



**Consumer** waits to be notified by producer  
Consumes widget  
notifies producer that widget consumed

The diagram shows a blue rectangular box with a blue arrow pointing downwards from the top center to the text inside. The text is left-aligned and describes the consumer's actions in a fully coordinated (lockstep) system.

# Producer Consumer- Outline

(partially coordinated)

//Globals

gCount=0;      //tracks widgets

bDone = false; //is producer finished?

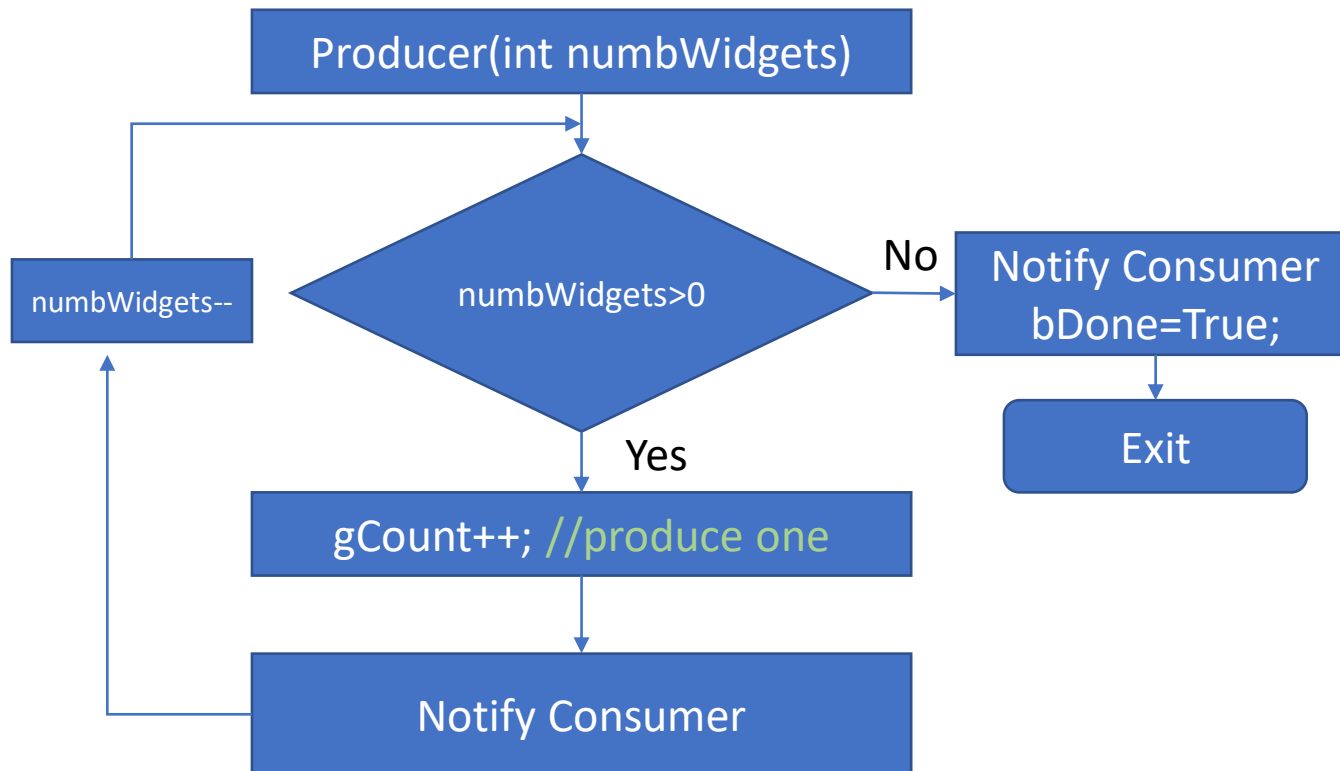
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(partially coordinated)

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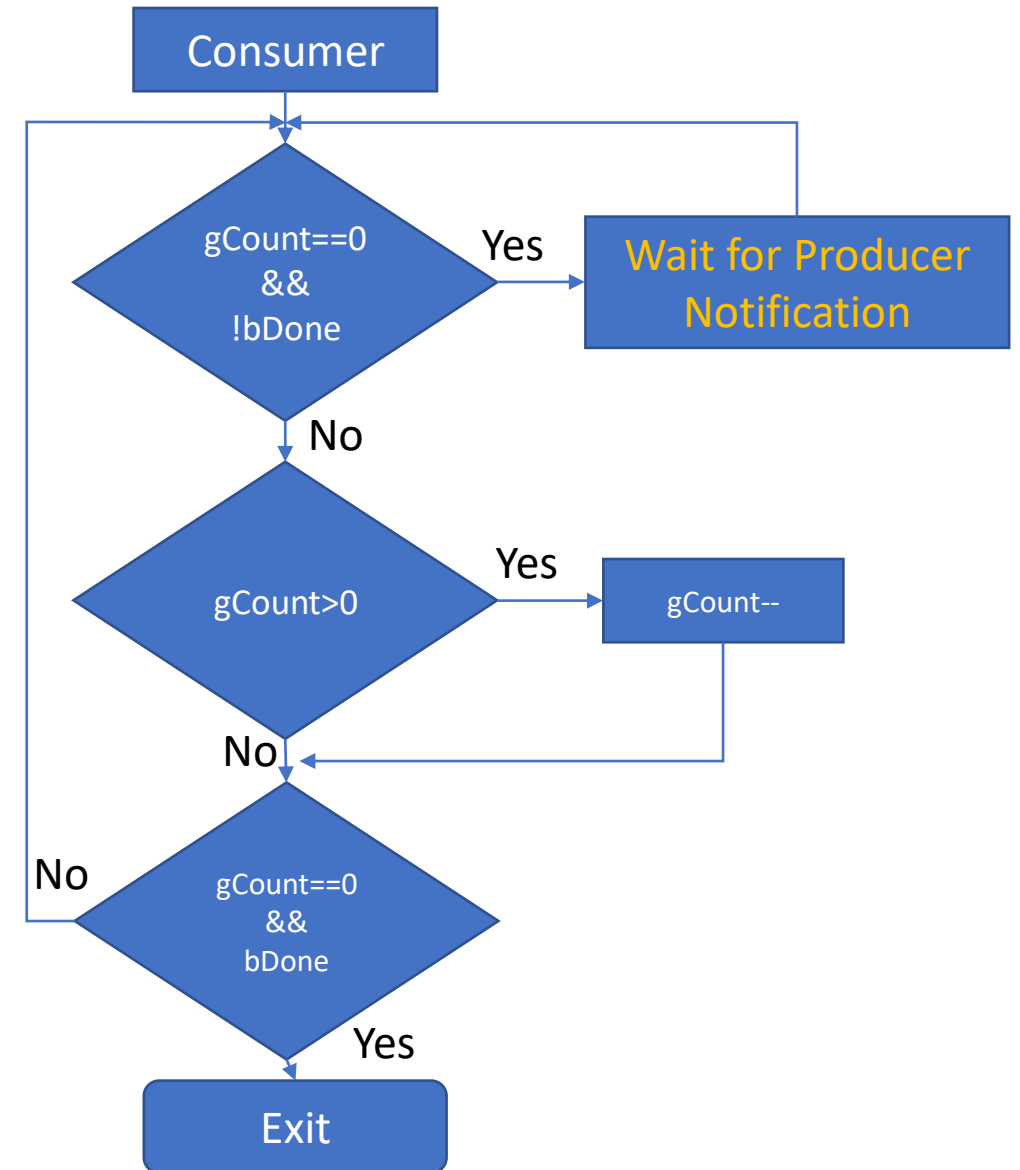
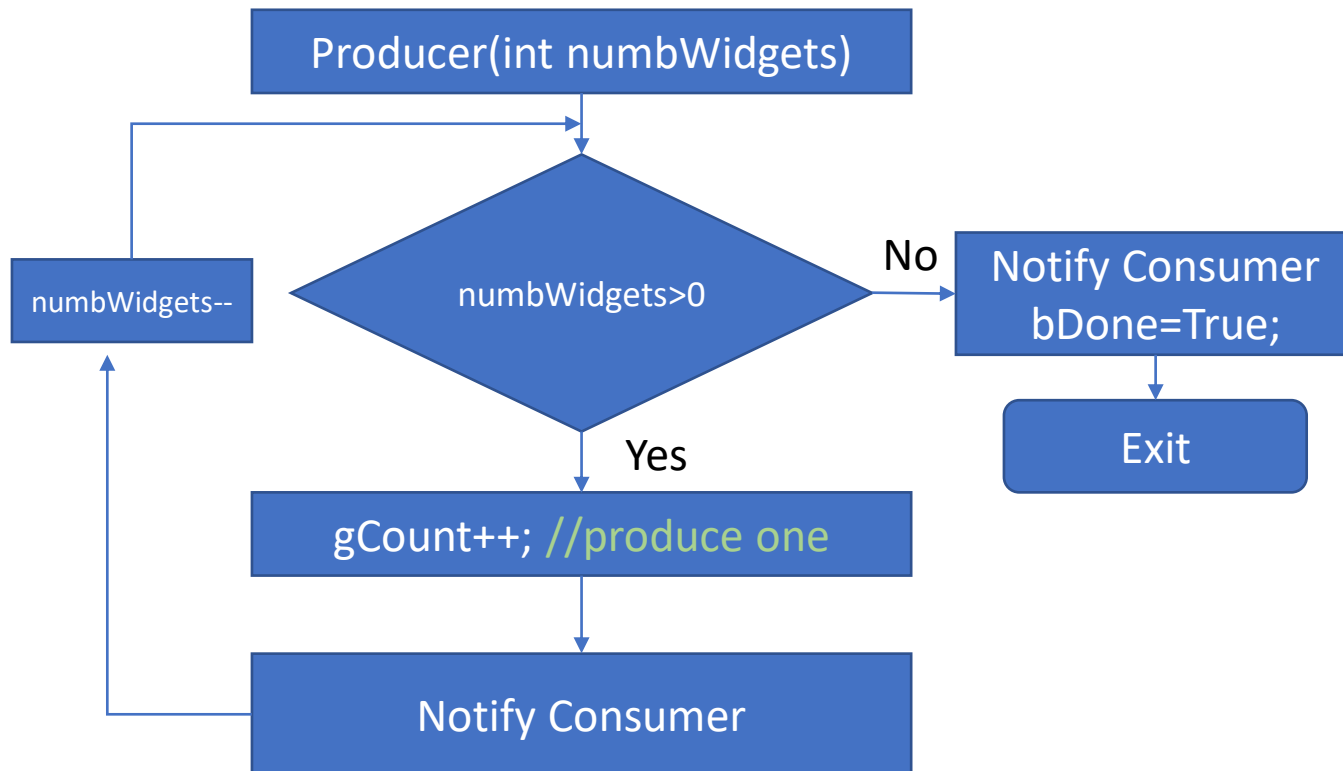
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(partially coordinated)

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# Producer Consumer

- See course website examples