**•Producer-Consumer Problem:**

    –The producer and consumer share a fixed-size buffer used as a queue.

    –The producer’s job is to generate data and put this in the buffer.

    –The consumer’s job is to consume the data from this buffer, one at a time.

**•Problem:**

    –The producer should produce data only when the buffer is not full. If the buffer is full, then the producer shouldn't be allowed to put any data into the buffer.

    –The consumer should consume data only when the buffer is not empty. If the buffer is empty, then the consumer shouldn't be allowed to take any data from the buffer.

    –The producer and consumer should not access the buffer at the same time

**Sample code for producer and consumer methods:**

char buffer[10]

i1 = 0

i2 = 0;

void producer (){

    buffer[i1] = 1;

    i1++;

}

int consumer() {

    int var = buffer[i2];

    buffer[i2] = null;

    i2++

    return var;

}

You can use this code or implement on your own, both possible.

**TASK:** You have to implement the main function and call consumer, producer methds in a thread. You can use semaphore or mutex for concurrency