

The information below assumes 1 producer and NUM_PROCESSES consumer processes, and NUM_PROCESSES+2 camera image buffers.

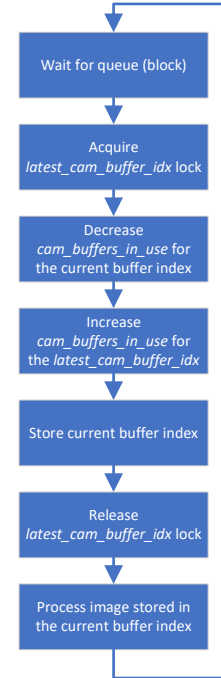
Variables list:

- *cons_queues*[NUM_PROCESSES] (mp.Queue): queue to trigger new frame acquired from the producer to each consumer (could be pipe);
- *shared_frame_arr*[NUM_PROCESSES+2] (numpy array): space for the shared image buffers;
- *shared_latest_cam_buffer_idx* (int): 0, 1, ... or NUM_PROCESSES+1, representing the buffer with the latest image;
- *shared_buffers_idx_in_use* [NUM_PROCESSES+2] (int): number of processes using the corresponding buffer.

Notes:

- Each queue has a maximum 1 capacity
- *shared_frame_arr* is read by the consumers (processes that process the image) and written by the producer (the process acquiring the camera image);
- *shared_latest_cam_buffer_idx*: is read by the consumer and written by the producer;
- *shared_buffers_idx_in_use*: is written by the consumers and read by the producer.
- Access to the shared variable *shared_frame_arr* and *shared_buffers_idx_in_use* is controlled by the same lock (*shared_latest_cam_buffer_idx*)

Each consumer process



Producer process

