

Part 1 code sort of works, serving order issues. User thread 1 is being served multiple times in the output, other parts work

Part 1

```
#include <stdio.h>
#include <stdlib.h>
#include <pthread.h>
#include <unistd.h>

int X, N, M; // Number of packets, user threads, kernel threads
int available_packets;
int next_user_turn = 1; // Tracks which user thread should go next
int done = 0; // Flags kernel threads to stop

pthread_mutex_t mutex = PTHREAD_MUTEX_INITIALIZER;
pthread_cond_t cv_user = PTHREAD_COND_INITIALIZER;
pthread_cond_t cv_kernel = PTHREAD_COND_INITIALIZER;

// User Thread
void *user_thread(void *arg) {
    int my_id = *(int *)arg;
    usleep(10000 + 10000 * ((my_id * 1000) % 5)); // Random delay

    pthread_mutex_lock(&mutex);

    // Wait until its this thread's turn and there are available packets
    while (!(my_id == next_user_turn && available_packets > 0)) {
        printf("No packet available or not my turn to produce, user level\n", my_id);
        fflush(stdout);
        pthread_cond_wait(&cv_user, &mutex);
    }

    // Puts data in a packet
    printf("User level thread %d is going to put data in a packet\n", my_id);
    fflush(stdout);
    available_packets--;
```

```

    // Move to the next user thread in order
    next_user_turn++;

    pthread_cond_broadcast(&cv_kernel); // Wakes up kernel thread
    pthread_mutex_unlock(&mutex);

    return NULL;
}

// Kernel Thread
void *kernel_thread(void *arg) {
    int my_id = *(int *)arg;
    int served_count = 0; // Count of served user threads

    while (1) {
        pthread_mutex_lock(&mutex);

        // If all user threads have finished, exit
        if (done) {
            pthread_mutex_unlock(&mutex);
            break;
        }

        // Wait until there are packets available
        while (available_packets == X) {
            printf("No data available, Going to sleep kernel thread %d\n",
my_id);

            fflush(stdout);
            pthread_cond_wait(&cv_kernel, &mutex);

            // Exits if signaled to terminate
            if (done) {
                pthread_mutex_unlock(&mutex);
                return NULL;
            }
        }

        // Serve the next user thread in order
        printf("user thread %d getting served\n", served_count + 1);
        fflush(stdout);
    }
}

```

```

        available_packets++; // Frees up packet
        served_count++;

        pthread_cond_broadcast(&cv_user); // Wakes up waiting user threads
        pthread_mutex_unlock(&mutex);

        usleep(10000 + 10000 * ((my_id * 1000) % 5)); // Random delay
    }

    return NULL;
}

int main(int argc, char *argv[]) {
    if (argc != 4) {
        fprintf(stderr, "Usage: %s <X> <N> <M>\n", argv[0]);
        return 1;
    }

    X = atoi(argv[1]);
    N = atoi(argv[2]);
    M = atoi(argv[3]);

    available_packets = X;

    pthread_t userThreads[N], kernelThreads[M];
    int userIds[N], kernelIds[M];

    // Create user level threads
    for (int i = 0; i < N; i++) {
        userIds[i] = i + 1;
        pthread_create(&userThreads[i], NULL, user_thread, &userIds[i]);
    }

    // Create kernel level threads
    for (int i = 0; i < M; i++) {
        kernelIds[i] = i + 1;
        pthread_create(&kernelThreads[i], NULL, kernel_thread,
&kernelIds[i]);
    }
}

```

```

    // Wait for user threads to finish
    for (int i = 0; i < N; i++) {
        pthread_join(userThreads[i], NULL);
    }

    // Signal kernel threads to stop
    pthread_mutex_lock(&mutex);
    done = 1;
    pthread_cond_broadcast(&cv_kernel); // Wakes up sleeping kernel
threads
    pthread_mutex_unlock(&mutex);

    // Wait for kernel threads to finish
    for (int i = 0; i < M; i++) {
        pthread_join(kernelThreads[i], NULL);
    }

    return 0;
}

```

Output

```

PS C:\Users\ziyan\Downloads> ./data_to_kernel 4 6 2
No data available, Going to sleep kernel thread 1
No data available, Going to sleep kernel thread 2
No packet available or not my turn to produce, user level thread 6 going to sleep
No packet available or not my turn to produce, user level thread 5 going to sleep
No packet available or not my turn to produce, user level thread 2 going to sleep
No packet available or not my turn to produce, user level thread 4 going to sleep
User level thread 1 is going to put data in a packet
user thread 1 getting served
No packet available or not my turn to produce, user level thread 4 going to sleep
No packet available or not my turn to produce, user level thread 3 going to sleep
No packet available or not my turn to produce, user level thread 5 going to sleep
No packet available or not my turn to produce, user level thread 6 going to sleep
User level thread 2 is going to put data in a packet
user thread 1 getting served
User level thread 3 is going to put data in a packet
No packet available or not my turn to produce, user level thread 5 going to sleep
No packet available or not my turn to produce, user level thread 6 going to sleep
User level thread 4 is going to put data in a packet
user thread 2 getting served
No packet available or not my turn to produce, user level thread 6 going to sleep
User level thread 5 is going to put data in a packet
user thread 2 getting served
User level thread 6 is going to put data in a packet

```

Part 2

```
#include <stdio.h>
#include <stdlib.h>
#include <pthread.h>
#include <unistd.h>

#define TOTAL_PRODUCE 1000 // Number of items to produce/consume before
                             stopping

int *queue;
int queue_size;
int front = 0, rear = 0, count = 0;
int total_produced = 0, total_consumed = 0;

// Sleep counters
int producer_sleep_count[3] = {0};
int consumer_sleep_count[2] = {0};

// Mutex and condition variables
pthread_mutex_t mutex = PTHREAD_MUTEX_INITIALIZER;
pthread_cond_t cond_producer = PTHREAD_COND_INITIALIZER;
pthread_cond_t cond_consumer = PTHREAD_COND_INITIALIZER;

// Producer
void *producer(void *arg) {
    int my_id = *(int *)arg;

    while (1) {
        usleep(10000 + 10000 * (rand() % 5)); // Random delay

        pthread_mutex_lock(&mutex);

        // Stops when total produced reaches the limit
        if (total_produced >= TOTAL_PRODUCE) {
            pthread_mutex_unlock(&mutex);
            break;
        }
    }
}
```

```

    // Waits to see if queue is full
    while (count == queue_size) {
        printf("Queue full! Producer %d going to sleep\n", my_id);
        fflush(stdout);
        producer_sleep_count[my_id]++;
        pthread_cond_wait(&cond_producer, &mutex);
    }

    // Produces an item
    queue[rear] = total_produced + 1;
    rear = (rear + 1) % queue_size;
    count++;
    total_produced++;

    printf("Producer %d produced item %d\n", my_id, total_produced);
    fflush(stdout);

    pthread_cond_signal(&cond_consumer); // Wakes up a consumer
    pthread_mutex_unlock(&mutex);
}

return NULL;
}

// Consumer
void *consumer(void *arg) {
    int my_id = *(int *)arg;

    while (1) {
        usleep(10000 + 10000 * (rand() % 5)); // Random delay

        pthread_mutex_lock(&mutex);

        // Stops when the total consumed reaches the limit
        if (total_consumed >= TOTAL_PRODUCE) {
            pthread_mutex_unlock(&mutex);
            break;
        }

        // Wait to see if queue empty

```

```

        while (count == 0) {
            printf("Queue empty! Consumer %d going to sleep\n", my_id);
            fflush(stdout);
            consumer_sleep_count[my_id]++;
            pthread_cond_wait(&cond_consumer, &mutex);
        }

        // Consumes an item
        int item = queue[front];
        front = (front + 1) % queue_size;
        count--;
        total_consumed++;

        printf("Consumer %d consumed item %d\n", my_id, item);
        fflush(stdout);

        pthread_cond_signal(&cond_producer); // Wakes up a producer
        pthread_mutex_unlock(&mutex);
    }

    return NULL;
}

int main(int argc, char *argv[]) {
    if (argc != 2) {
        fprintf(stderr, "Usage: %s <queue_size>\n", argv[0]);
        return 1;
    }

    queue_size = atoi(argv[1]);
    queue = (int *)malloc(queue_size * sizeof(int));

    pthread_t producers[3], consumers[2];
    int producer_ids[3] = {0, 1, 2};
    int consumer_ids[2] = {0, 1};

    // Creates producer threads
    for (int i = 0; i < 3; i++) {
        pthread_create(&producers[i], NULL, producer, &producer_ids[i]);
    }

```

```

// Creates consumer threads
for (int i = 0; i < 2; i++) {
    pthread_create(&consumers[i], NULL, consumer, &consumer_ids[i]);
}

// Waits for threads to finish
for (int i = 0; i < 3; i++) {
    pthread_join(producers[i], NULL);
}
for (int i = 0; i < 2; i++) {
    pthread_join(consumers[i], NULL);
}

// Print sleep counts
printf("\n=== Summary ===\n");
for (int i = 0; i < 3; i++) {
    printf("Producer %d slept %d times\n", i,
producer_sleep_count[i]);
}
for (int i = 0; i < 2; i++) {
    printf("Consumer %d slept %d times\n", i,
consumer_sleep_count[i]);
}

free(queue);
return 0;
}

```

Outputs for part 2

Summary for queue size 10

=== Summary ===

Producer 0 slept 233 times

Producer 1 slept 235 times

Producer 2 slept 222 times

Consumer 0 slept 1 times

Consumer 1 slept 1 times

Summary for queue size 20

=== Summary ===

Producer 0 slept 228 times

Producer 1 slept 237 times

Producer 2 slept 238 times

Consumer 0 slept 0 times

Consumer 1 slept 0 times

Summary for queue size 100

=== Summary ===

Producer 0 slept 161 times

Producer 1 slept 154 times

Producer 2 slept 159 times

Consumer 0 slept 1 times

Consumer 1 slept 1 times

This is the complete output for queue size 10

Queue empty! Consumer 1 going to sleep

Queue empty! Consumer 0 going to sleep

Producer 2 produced item 1

Consumer 1 consumed item 1

Producer 1 produced item 2

Consumer 0 consumed item 2

Producer 0 produced item 3

Producer 0 produced item 4

Consumer 0 consumed item 3

Consumer 1 consumed item 4

Producer 1 produced item 5

Producer 2 produced item 6

Producer 2 produced item 7

Producer 1 produced item 8

Consumer 0 consumed item 5

Producer 0 produced item 9

Consumer 1 consumed item 6

Consumer 1 consumed item 7

Producer 0 produced item 10

Consumer 0 consumed item 8

Producer 1 produced item 11

Producer 2 produced item 12

Consumer 1 consumed item 9
Producer 2 produced item 13
Producer 1 produced item 14
Consumer 0 consumed item 10
Producer 0 produced item 15
Consumer 1 consumed item 11
Producer 0 produced item 16
Consumer 0 consumed item 12
Producer 1 produced item 17
Producer 2 produced item 18
Consumer 1 consumed item 13
Producer 1 produced item 19
Consumer 0 consumed item 14
Producer 2 produced item 20
Producer 0 produced item 21
Consumer 1 consumed item 15
Consumer 0 consumed item 16
Producer 2 produced item 22
Producer 0 produced item 23
Producer 1 produced item 24
Consumer 1 consumed item 17
Producer 1 produced item 25
Producer 0 produced item 26
Producer 2 produced item 27
Consumer 0 consumed item 18
Producer 2 produced item 28
Consumer 0 consumed item 19
Producer 0 produced item 29
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 20
Producer 1 produced item 30
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 21
Producer 2 produced item 31
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 22
Producer 0 produced item 32
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 23
Producer 2 produced item 33
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 24
Producer 1 produced item 34
Queue full! Producer 0 going to sleep

Queue full! Producer 1 going to sleep
Consumer 1 consumed item 25
Consumer 0 consumed item 26
Producer 1 produced item 35
Producer 0 produced item 36
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 27
Producer 2 produced item 37
Consumer 0 consumed item 28
Producer 1 produced item 38
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 29
Consumer 1 consumed item 30
Producer 0 produced item 39
Producer 1 produced item 40
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 31
Producer 2 produced item 41
Consumer 0 consumed item 32
Producer 0 produced item 42
Consumer 1 consumed item 33
Consumer 0 consumed item 34
Producer 1 produced item 43
Producer 0 produced item 44
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 35
Producer 2 produced item 45
Consumer 0 consumed item 36
Producer 1 produced item 46
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 37
Consumer 0 consumed item 38
Producer 0 produced item 47
Producer 1 produced item 48
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 39
Producer 2 produced item 49
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 40
Producer 0 produced item 50

Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 41
Producer 1 produced item 51
Consumer 1 consumed item 42
Producer 2 produced item 52
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 43
Consumer 1 consumed item 44
Producer 0 produced item 53
Producer 2 produced item 54
Consumer 1 consumed item 45
Producer 2 produced item 55
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 46
Producer 1 produced item 56
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 47
Producer 0 produced item 57
Consumer 1 consumed item 48
Producer 2 produced item 58
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 49
Consumer 0 consumed item 50
Producer 2 produced item 59
Producer 1 produced item 60
Consumer 1 consumed item 51
Producer 0 produced item 61
Consumer 0 consumed item 52
Producer 1 produced item 62
Consumer 1 consumed item 53
Consumer 0 consumed item 54
Producer 0 produced item 63
Producer 2 produced item 64
Consumer 0 consumed item 55
Consumer 1 consumed item 56
Producer 1 produced item 65
Producer 2 produced item 66
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 57

Consumer 1 consumed item 58
Producer 1 produced item 67
Producer 0 produced item 68
Consumer 1 consumed item 59
Consumer 0 consumed item 60
Producer 2 produced item 69
Producer 0 produced item 70
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 61
Producer 1 produced item 71
Consumer 1 consumed item 62
Producer 2 produced item 72
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 63
Producer 0 produced item 73
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 64
Producer 2 produced item 74
Consumer 1 consumed item 65
Producer 1 produced item 75
Consumer 0 consumed item 66
Producer 2 produced item 76
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 67
Consumer 0 consumed item 68
Producer 1 produced item 77
Producer 0 produced item 78
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 69
Consumer 1 consumed item 70
Producer 1 produced item 79
Producer 2 produced item 80
Consumer 0 consumed item 71
Consumer 1 consumed item 72
Producer 1 produced item 81
Producer 0 produced item 82
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 73
Producer 2 produced item 83
Consumer 0 consumed item 74

Producer 0 produced item 84
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 75
Consumer 0 consumed item 76
Producer 2 produced item 85
Producer 1 produced item 86
Consumer 1 consumed item 77
Consumer 0 consumed item 78
Producer 1 produced item 87
Producer 0 produced item 88
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 79
Producer 1 produced item 89
Consumer 0 consumed item 80
Producer 2 produced item 90
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 81
Producer 0 produced item 91
Consumer 0 consumed item 82
Producer 1 produced item 92
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 83
Consumer 0 consumed item 84
Producer 0 produced item 93
Producer 2 produced item 94
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 85
Producer 1 produced item 95
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 86
Producer 0 produced item 96
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 87
Producer 1 produced item 97
Consumer 1 consumed item 88
Producer 0 produced item 98
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep

Consumer 1 consumed item 89
Consumer 0 consumed item 90
Producer 0 produced item 99
Producer 2 produced item 100
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 91
Producer 1 produced item 101
Consumer 0 consumed item 92
Producer 0 produced item 102
Consumer 0 consumed item 93
Consumer 1 consumed item 94
Producer 2 produced item 103
Producer 1 produced item 104
Consumer 1 consumed item 95
Producer 0 produced item 105
Consumer 0 consumed item 96
Producer 1 produced item 106
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 97
Consumer 1 consumed item 98
Producer 2 produced item 107
Producer 0 produced item 108
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 99
Producer 1 produced item 109
Consumer 0 consumed item 100
Producer 0 produced item 110
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 101
Consumer 0 consumed item 102
Producer 2 produced item 111
Producer 1 produced item 112
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 103
Producer 0 produced item 113
Consumer 1 consumed item 104
Producer 2 produced item 114
Queue full! Producer 0 going to sleep

Consumer 1 consumed item 105
Producer 1 produced item 115
Consumer 0 consumed item 106
Producer 0 produced item 116
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 107
Producer 2 produced item 117
Consumer 0 consumed item 108
Producer 2 produced item 118
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 109
Producer 1 produced item 119
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 110
Producer 0 produced item 120
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 111
Producer 1 produced item 121
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 112
Producer 2 produced item 122
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 113
Producer 0 produced item 123
Consumer 0 consumed item 114
Producer 2 produced item 124
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 115
Producer 1 produced item 125
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 116
Producer 0 produced item 126
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 117
Producer 2 produced item 127
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 118
Producer 1 produced item 128
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 119
Producer 0 produced item 129
Queue full! Producer 1 going to sleep

Consumer 0 consumed item 120
Producer 2 produced item 130
Consumer 1 consumed item 121
Producer 1 produced item 131
Consumer 1 consumed item 122
Producer 0 produced item 132
Consumer 0 consumed item 123
Consumer 1 consumed item 124
Consumer 0 consumed item 125
Producer 2 produced item 133
Consumer 0 consumed item 126
Producer 1 produced item 134
Producer 0 produced item 135
Consumer 1 consumed item 127
Consumer 0 consumed item 128
Producer 2 produced item 136
Producer 1 produced item 137
Consumer 1 consumed item 129
Producer 0 produced item 138
Producer 1 produced item 139
Consumer 0 consumed item 130
Producer 2 produced item 140
Consumer 0 consumed item 131
Consumer 1 consumed item 132
Producer 0 produced item 141
Consumer 1 consumed item 133
Consumer 0 consumed item 134
Producer 1 produced item 142
Producer 2 produced item 143
Producer 0 produced item 144
Consumer 1 consumed item 135
Producer 2 produced item 145
Consumer 0 consumed item 136
Producer 1 produced item 146
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 137
Producer 0 produced item 147
Consumer 0 consumed item 138
Producer 2 produced item 148
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 139
Consumer 1 consumed item 140
Producer 2 produced item 149

Producer 0 produced item 150
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 141
Consumer 1 consumed item 142
Producer 0 produced item 151
Producer 1 produced item 152
Consumer 1 consumed item 143
Producer 2 produced item 153
Consumer 0 consumed item 144
Consumer 1 consumed item 145
Consumer 0 consumed item 146
Producer 0 produced item 154
Producer 1 produced item 155
Producer 2 produced item 156
Consumer 0 consumed item 147
Consumer 1 consumed item 148
Producer 1 produced item 157
Producer 0 produced item 158
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 149
Producer 2 produced item 159
Consumer 1 consumed item 150
Consumer 1 consumed item 151
Consumer 0 consumed item 152
Producer 0 produced item 160
Producer 1 produced item 161
Producer 2 produced item 162
Consumer 1 consumed item 153
Consumer 0 consumed item 154
Producer 2 produced item 163
Producer 1 produced item 164
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 155
Producer 0 produced item 165
Consumer 0 consumed item 156
Consumer 1 consumed item 157
Consumer 0 consumed item 158
Producer 1 produced item 166
Producer 2 produced item 167
Producer 0 produced item 168
Consumer 1 consumed item 159
Producer 2 produced item 169

Queue full! Producer 1 going to sleep
Consumer 0 consumed item 160
Producer 1 produced item 170
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 161
Consumer 0 consumed item 162
Producer 0 produced item 171
Producer 1 produced item 172
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 163
Consumer 1 consumed item 164
Producer 2 produced item 173
Producer 0 produced item 174
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 165
Producer 0 produced item 175
Consumer 0 consumed item 166
Producer 2 produced item 176
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 167
Consumer 0 consumed item 168
Producer 2 produced item 177
Producer 1 produced item 178
Consumer 0 consumed item 169
Consumer 1 consumed item 170
Producer 2 produced item 179
Producer 0 produced item 180
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 171
Producer 2 produced item 181
Consumer 0 consumed item 172
Producer 2 produced item 182
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 173
Producer 0 produced item 183
Consumer 1 consumed item 174
Producer 1 produced item 184
Queue full! Producer 0 going to sleep

Queue full! Producer 1 going to sleep
Consumer 1 consumed item 175
Producer 0 produced item 185
Consumer 0 consumed item 176
Producer 2 produced item 186
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 177
Producer 1 produced item 187
Consumer 0 consumed item 178
Producer 0 produced item 188
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 179
Producer 1 produced item 189
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 180
Producer 2 produced item 190
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 181
Consumer 0 consumed item 182
Producer 0 produced item 191
Producer 1 produced item 192
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 183
Producer 2 produced item 193
Consumer 0 consumed item 184
Producer 1 produced item 194
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 185
Consumer 0 consumed item 186
Producer 2 produced item 195
Producer 0 produced item 196
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 187
Producer 1 produced item 197
Consumer 1 consumed item 188
Producer 0 produced item 198
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep

Consumer 0 consumed item 189
Consumer 1 consumed item 190
Producer 2 produced item 199
Producer 1 produced item 200
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 191
Consumer 1 consumed item 192
Producer 0 produced item 201
Producer 1 produced item 202
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 193
Consumer 1 consumed item 194
Producer 1 produced item 203
Producer 2 produced item 204
Consumer 1 consumed item 195
Producer 0 produced item 205
Consumer 0 consumed item 196
Producer 2 produced item 206
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 197
Producer 1 produced item 207
Consumer 1 consumed item 198
Producer 2 produced item 208
Consumer 1 consumed item 199
Producer 0 produced item 209
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 200
Producer 2 produced item 210
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 201
Producer 2 produced item 211
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 202
Producer 1 produced item 212
Consumer 1 consumed item 203
Producer 0 produced item 213
Consumer 0 consumed item 204
Producer 1 produced item 214
Queue full! Producer 1 going to sleep

Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 205
Consumer 0 consumed item 206
Producer 0 produced item 215
Producer 1 produced item 216
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 207
Consumer 0 consumed item 208
Producer 0 produced item 217
Producer 2 produced item 218
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 209
Producer 1 produced item 219
Consumer 0 consumed item 210
Producer 0 produced item 220
Consumer 1 consumed item 211
Consumer 0 consumed item 212
Producer 2 produced item 221
Producer 2 produced item 222
Consumer 0 consumed item 213
Consumer 1 consumed item 214
Producer 0 produced item 223
Producer 2 produced item 224
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 215
Producer 1 produced item 225
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 216
Producer 0 produced item 226
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 217
Producer 0 produced item 227
Consumer 0 consumed item 218
Producer 1 produced item 228
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 219
Producer 2 produced item 229
Consumer 1 consumed item 220
Producer 1 produced item 230

Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 221
Consumer 0 consumed item 222
Producer 1 produced item 231
Producer 0 produced item 232
Consumer 1 consumed item 223
Consumer 0 consumed item 224
Producer 0 produced item 233
Producer 1 produced item 234
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 225
Producer 2 produced item 235
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 226
Producer 0 produced item 236
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 227
Producer 1 produced item 237
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 228
Producer 0 produced item 238
Consumer 1 consumed item 229
Producer 2 produced item 239
Consumer 0 consumed item 230
Producer 1 produced item 240
Consumer 1 consumed item 231
Producer 2 produced item 241
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 232
Producer 0 produced item 242
Consumer 1 consumed item 233
Producer 1 produced item 243
Consumer 0 consumed item 234
Producer 2 produced item 244
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 235
Producer 0 produced item 245
Consumer 0 consumed item 236
Producer 1 produced item 246
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 237
Producer 2 produced item 247

Consumer 0 consumed item 238
Consumer 1 consumed item 239
Producer 0 produced item 248
Consumer 0 consumed item 240
Producer 1 produced item 249
Consumer 1 consumed item 241
Producer 2 produced item 250
Consumer 0 consumed item 242
Consumer 1 consumed item 243
Producer 2 produced item 251
Producer 0 produced item 252
Consumer 1 consumed item 244
Producer 2 produced item 253
Producer 1 produced item 254
Consumer 0 consumed item 245
Producer 0 produced item 255
Consumer 1 consumed item 246
Producer 0 produced item 256
Consumer 0 consumed item 247
Producer 1 produced item 257
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 248
Producer 2 produced item 258
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 249
Producer 1 produced item 259
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 250
Producer 0 produced item 260
Consumer 1 consumed item 251
Producer 2 produced item 261
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 252
Producer 1 produced item 262
Consumer 0 consumed item 253
Producer 0 produced item 263
Consumer 0 consumed item 254
Producer 2 produced item 264
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 255
Producer 1 produced item 265

Queue full! Producer 2 going to sleep
Consumer 0 consumed item 256
Producer 0 produced item 266
Consumer 1 consumed item 257
Producer 2 produced item 267
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 258
Producer 1 produced item 268
Consumer 1 consumed item 259
Producer 0 produced item 269
Consumer 1 consumed item 260
Consumer 1 consumed item 261
Consumer 0 consumed item 262
Producer 2 produced item 270
Consumer 0 consumed item 263
Producer 1 produced item 271
Consumer 1 consumed item 264
Producer 0 produced item 272
Consumer 0 consumed item 265
Consumer 0 consumed item 266
Producer 2 produced item 273
Producer 1 produced item 274
Consumer 1 consumed item 267
Producer 2 produced item 275
Producer 0 produced item 276
Consumer 1 consumed item 268
Producer 0 produced item 277
Consumer 0 consumed item 269
Consumer 1 consumed item 270
Producer 2 produced item 278
Producer 1 produced item 279
Consumer 0 consumed item 271
Consumer 1 consumed item 272
Consumer 0 consumed item 273
Producer 0 produced item 280
Producer 1 produced item 281
Producer 2 produced item 282
Producer 0 produced item 283
Consumer 0 consumed item 274
Consumer 1 consumed item 275
Producer 2 produced item 284
Producer 1 produced item 285
Consumer 0 consumed item 276
Consumer 1 consumed item 277

Producer 0 produced item 286
Consumer 0 consumed item 278
Producer 2 produced item 287
Producer 1 produced item 288
Consumer 1 consumed item 279
Producer 0 produced item 289
Consumer 0 consumed item 280
Producer 2 produced item 290
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 281
Producer 1 produced item 291
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 282
Producer 0 produced item 292
Consumer 0 consumed item 283
Consumer 1 consumed item 284
Producer 2 produced item 293
Producer 1 produced item 294
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 285
Consumer 0 consumed item 286
Producer 0 produced item 295
Producer 2 produced item 296
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 287
Producer 1 produced item 297
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 288
Producer 0 produced item 298
Consumer 1 consumed item 289
Producer 2 produced item 299
Consumer 0 consumed item 290
Producer 2 produced item 300
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 291
Producer 0 produced item 301
Consumer 1 consumed item 292
Producer 1 produced item 302
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep

Consumer 1 consumed item 293
Consumer 0 consumed item 294
Producer 2 produced item 303
Producer 0 produced item 304
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 295
Producer 1 produced item 305
Consumer 1 consumed item 296
Producer 2 produced item 306
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 297
Producer 0 produced item 307
Consumer 0 consumed item 298
Producer 1 produced item 308
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 299
Producer 2 produced item 309
Consumer 0 consumed item 300
Producer 0 produced item 310
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 301
Producer 1 produced item 311
Consumer 0 consumed item 302
Producer 2 produced item 312
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 303
Producer 0 produced item 313
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 304
Producer 0 produced item 314
Consumer 1 consumed item 305
Producer 2 produced item 315
Consumer 1 consumed item 306
Producer 1 produced item 316
Consumer 0 consumed item 307
Consumer 0 consumed item 308
Producer 0 produced item 317
Producer 2 produced item 318
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 309

Consumer 1 consumed item 310
Producer 2 produced item 319
Producer 1 produced item 320
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 311
Producer 0 produced item 321
Consumer 0 consumed item 312
Producer 1 produced item 322
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 313
Consumer 0 consumed item 314
Producer 1 produced item 323
Producer 2 produced item 324
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 315
Producer 0 produced item 325
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 316
Producer 2 produced item 326
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 317
Producer 1 produced item 327
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 318
Producer 2 produced item 328
Consumer 0 consumed item 319
Producer 0 produced item 329
Consumer 1 consumed item 320
Consumer 0 consumed item 321
Producer 1 produced item 330
Consumer 0 consumed item 322
Producer 0 produced item 331
Producer 0 produced item 332
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 323
Producer 2 produced item 333
Consumer 0 consumed item 324
Producer 1 produced item 334
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 325

Producer 2 produced item 335
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 326
Producer 0 produced item 336
Consumer 1 consumed item 327
Producer 1 produced item 337
Consumer 0 consumed item 328
Producer 2 produced item 338
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 329
Producer 0 produced item 339
Consumer 0 consumed item 330
Producer 0 produced item 340
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 331
Producer 1 produced item 341
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 332
Producer 2 produced item 342
Consumer 0 consumed item 333
Producer 1 produced item 343
Consumer 0 consumed item 334
Producer 0 produced item 344
Consumer 1 consumed item 335
Producer 2 produced item 345
Consumer 0 consumed item 336
Producer 0 produced item 346
Consumer 1 consumed item 337
Producer 1 produced item 347
Consumer 1 consumed item 338
Producer 2 produced item 348
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 339
Producer 1 produced item 349
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 340
Producer 0 produced item 350
Consumer 1 consumed item 341
Producer 2 produced item 351
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 342

Producer 1 produced item 352
Consumer 0 consumed item 343
Producer 2 produced item 353
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 344
Producer 0 produced item 354
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 345
Producer 2 produced item 355
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 346
Producer 2 produced item 356
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 347
Producer 1 produced item 357
Consumer 0 consumed item 348
Consumer 1 consumed item 349
Producer 2 produced item 358
Producer 0 produced item 359
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 350
Producer 0 produced item 360
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 351
Producer 1 produced item 361
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 352
Producer 2 produced item 362
Consumer 1 consumed item 353
Producer 1 produced item 363
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 354
Producer 0 produced item 364
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 355
Producer 2 produced item 365
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 356
Producer 2 produced item 366
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep

Consumer 1 consumed item 357
Producer 0 produced item 367
Consumer 0 consumed item 358
Producer 0 produced item 368
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 359
Producer 2 produced item 369
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 360
Producer 1 produced item 370
Consumer 1 consumed item 361
Producer 0 produced item 371
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 362
Producer 2 produced item 372
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 363
Producer 0 produced item 373
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 364
Producer 1 produced item 374
Consumer 1 consumed item 365
Producer 2 produced item 375
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 366
Producer 0 produced item 376
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 367
Producer 1 produced item 377
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 368
Producer 2 produced item 378
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 369
Producer 1 produced item 379
Consumer 0 consumed item 370
Producer 0 produced item 380
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 371
Producer 2 produced item 381
Queue full! Producer 0 going to sleep

Consumer 1 consumed item 372
Producer 1 produced item 382
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 373
Producer 0 produced item 383
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 374
Producer 2 produced item 384
Consumer 1 consumed item 375
Producer 1 produced item 385
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 376
Producer 1 produced item 386
Consumer 1 consumed item 377
Producer 2 produced item 387
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 378
Producer 0 produced item 388
Consumer 1 consumed item 379
Producer 1 produced item 389
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 380
Producer 0 produced item 390
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 381
Producer 1 produced item 391
Consumer 0 consumed item 382
Producer 2 produced item 392
Consumer 1 consumed item 383
Producer 0 produced item 393
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 384
Producer 1 produced item 394
Consumer 1 consumed item 385
Producer 2 produced item 395
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 386

Producer 0 produced item 396
Consumer 1 consumed item 387
Producer 1 produced item 397
Consumer 0 consumed item 388
Producer 2 produced item 398
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 389
Producer 0 produced item 399
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 390
Producer 1 produced item 400
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 391
Producer 2 produced item 401
Consumer 0 consumed item 392
Consumer 1 consumed item 393
Producer 0 produced item 402
Producer 1 produced item 403
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 394
Producer 0 produced item 404
Consumer 1 consumed item 395
Producer 1 produced item 405
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 396
Producer 2 produced item 406
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 397
Producer 0 produced item 407
Consumer 0 consumed item 398
Producer 1 produced item 408
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 399
Producer 2 produced item 409
Consumer 0 consumed item 400
Producer 0 produced item 410
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 401

Producer 1 produced item 411
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 402
Producer 2 produced item 412
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 403
Producer 0 produced item 413
Consumer 1 consumed item 404
Producer 1 produced item 414
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 405
Producer 2 produced item 415
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 406
Producer 1 produced item 416
Consumer 1 consumed item 407
Producer 0 produced item 417
Consumer 1 consumed item 408
Consumer 0 consumed item 409
Producer 2 produced item 418
Consumer 0 consumed item 410
Producer 1 produced item 419
Producer 0 produced item 420
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 411
Producer 2 produced item 421
Consumer 0 consumed item 412
Producer 1 produced item 422
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 413
Producer 0 produced item 423
Consumer 0 consumed item 414
Producer 2 produced item 424
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 415
Producer 1 produced item 425
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 416
Producer 2 produced item 426
Consumer 1 consumed item 417
Producer 0 produced item 427

Queue full! Producer 1 going to sleep
Consumer 0 consumed item 418
Producer 1 produced item 428
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 419
Producer 2 produced item 429
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 420
Producer 0 produced item 430
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 421
Producer 2 produced item 431
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 422
Producer 0 produced item 432
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 423
Producer 1 produced item 433
Consumer 0 consumed item 424
Producer 2 produced item 434
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 425
Producer 0 produced item 435
Consumer 0 consumed item 426
Producer 2 produced item 436
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 427
Producer 1 produced item 437
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 428
Producer 0 produced item 438
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 429
Producer 2 produced item 439
Consumer 0 consumed item 430
Producer 1 produced item 440
Consumer 0 consumed item 431
Producer 2 produced item 441
Consumer 1 consumed item 432
Producer 0 produced item 442

Consumer 1 consumed item 433
Consumer 0 consumed item 434
Producer 1 produced item 443
Producer 1 produced item 444
Consumer 0 consumed item 435
Consumer 1 consumed item 436
Producer 0 produced item 445
Producer 2 produced item 446
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 437
Producer 2 produced item 447
Consumer 0 consumed item 438
Producer 0 produced item 448
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 439
Producer 2 produced item 449
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 440
Producer 1 produced item 450
Consumer 1 consumed item 441
Producer 0 produced item 451
Consumer 0 consumed item 442
Producer 2 produced item 452
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 443
Producer 1 produced item 453
Consumer 1 consumed item 444
Producer 0 produced item 454
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 445
Producer 2 produced item 455
Consumer 1 consumed item 446
Producer 0 produced item 456
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 447
Producer 1 produced item 457
Consumer 1 consumed item 448
Producer 0 produced item 458

Queue full! Producer 1 going to sleep
Consumer 1 consumed item 449
Producer 2 produced item 459
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 450
Producer 1 produced item 460
Consumer 0 consumed item 451
Producer 0 produced item 461
Consumer 1 consumed item 452
Producer 2 produced item 462
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 453
Consumer 1 consumed item 454
Producer 0 produced item 463
Producer 1 produced item 464
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 455
Producer 2 produced item 465
Consumer 1 consumed item 456
Producer 1 produced item 466
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 457
Producer 0 produced item 467
Consumer 0 consumed item 458
Producer 2 produced item 468
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 459
Producer 2 produced item 469
Consumer 1 consumed item 460
Producer 1 produced item 470
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 461
Consumer 0 consumed item 462
Producer 1 produced item 471
Producer 0 produced item 472
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 463
Producer 2 produced item 473
Consumer 0 consumed item 464

Producer 1 produced item 474
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 465
Consumer 0 consumed item 466
Producer 1 produced item 475
Producer 0 produced item 476
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 467
Producer 2 produced item 477
Consumer 1 consumed item 468
Producer 0 produced item 478
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 469
Consumer 0 consumed item 470
Producer 0 produced item 479
Producer 1 produced item 480
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 471
Producer 2 produced item 481
Consumer 1 consumed item 472
Producer 1 produced item 482
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 473
Consumer 0 consumed item 474
Producer 1 produced item 483
Producer 0 produced item 484
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 475
Producer 2 produced item 485
Consumer 1 consumed item 476
Producer 1 produced item 486
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 477
Producer 2 produced item 487
Consumer 0 consumed item 478
Producer 0 produced item 488
Queue full! Producer 1 going to sleep

Queue full! Producer 2 going to sleep
Consumer 1 consumed item 479
Producer 1 produced item 489
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 480
Producer 0 produced item 490
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 481
Producer 1 produced item 491
Consumer 0 consumed item 482
Producer 0 produced item 492
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 483
Producer 2 produced item 493
Consumer 1 consumed item 484
Producer 1 produced item 494
Consumer 0 consumed item 485
Producer 0 produced item 495
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 486
Producer 2 produced item 496
Consumer 1 consumed item 487
Producer 0 produced item 497
Consumer 0 consumed item 488
Producer 2 produced item 498
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 489
Producer 2 produced item 499
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 490
Producer 0 produced item 500
Consumer 1 consumed item 491
Producer 2 produced item 501
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 492
Producer 1 produced item 502
Consumer 0 consumed item 493
Producer 0 produced item 503
Consumer 0 consumed item 494
Producer 0 produced item 504

Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 495
Producer 1 produced item 505
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 496
Producer 0 produced item 506
Consumer 1 consumed item 497
Producer 2 produced item 507
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 498
Producer 1 produced item 508
Consumer 1 consumed item 499
Producer 0 produced item 509
Consumer 0 consumed item 500
Consumer 1 consumed item 501
Producer 1 produced item 510
Producer 2 produced item 511
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 502
Producer 2 produced item 512
Consumer 1 consumed item 503
Producer 1 produced item 513
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 504
Producer 1 produced item 514
Consumer 0 consumed item 505
Producer 0 produced item 515
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 506
Producer 2 produced item 516
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 507
Producer 0 produced item 517
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 508
Consumer 1 consumed item 509
Producer 2 produced item 518
Producer 1 produced item 519
Queue full! Producer 1 going to sleep

Queue full! Producer 0 going to sleep
Consumer 1 consumed item 510
Producer 1 produced item 520
Consumer 0 consumed item 511
Producer 0 produced item 521
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 512
Producer 2 produced item 522
Consumer 0 consumed item 513
Producer 1 produced item 523
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 514
Producer 0 produced item 524
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 515
Consumer 0 consumed item 516
Producer 1 produced item 525
Producer 2 produced item 526
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 517
Producer 0 produced item 527
Consumer 0 consumed item 518
Consumer 1 consumed item 519
Producer 2 produced item 528
Producer 1 produced item 529
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 520
Producer 1 produced item 530
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 521
Producer 0 produced item 531
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 522
Producer 1 produced item 532
Consumer 0 consumed item 523
Producer 2 produced item 533
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 524
Producer 0 produced item 534
Consumer 1 consumed item 525

Producer 2 produced item 535
Consumer 1 consumed item 526
Producer 1 produced item 536
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 527
Producer 0 produced item 537
Consumer 1 consumed item 528
Producer 2 produced item 538
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 529
Producer 0 produced item 539
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 530
Producer 1 produced item 540
Consumer 0 consumed item 531
Producer 2 produced item 541
Consumer 1 consumed item 532
Consumer 0 consumed item 533
Producer 0 produced item 542
Producer 1 produced item 543
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 534
Producer 2 produced item 544
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 535
Producer 0 produced item 545
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 536
Producer 1 produced item 546
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 537
Producer 2 produced item 547
Consumer 0 consumed item 538
Producer 0 produced item 548
Consumer 1 consumed item 539
Producer 2 produced item 549
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 540
Producer 1 produced item 550
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 541
Producer 2 produced item 551

Consumer 1 consumed item 542
Producer 0 produced item 552
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 543
Producer 1 produced item 553
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 544
Producer 2 produced item 554
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 545
Producer 0 produced item 555
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 546
Producer 2 produced item 556
Consumer 0 consumed item 547
Producer 0 produced item 557
Consumer 1 consumed item 548
Producer 1 produced item 558
Consumer 1 consumed item 549
Producer 0 produced item 559
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 550
Consumer 1 consumed item 551
Producer 1 produced item 560
Producer 2 produced item 561
Consumer 1 consumed item 552
Consumer 0 consumed item 553
Producer 0 produced item 562
Consumer 0 consumed item 554
Producer 2 produced item 563
Consumer 1 consumed item 555
Consumer 0 consumed item 556
Producer 1 produced item 564
Producer 0 produced item 565
Consumer 0 consumed item 557
Producer 2 produced item 566
Producer 0 produced item 567
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 558
Producer 1 produced item 568
Consumer 0 consumed item 559

Producer 2 produced item 569
Consumer 1 consumed item 560
Producer 1 produced item 570
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 561
Producer 0 produced item 571
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 562
Producer 2 produced item 572
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 563
Producer 1 produced item 573
Consumer 1 consumed item 564
Producer 0 produced item 574
Consumer 0 consumed item 565
Producer 2 produced item 575
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 566
Producer 1 produced item 576
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 567
Producer 0 produced item 577
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 568
Producer 2 produced item 578
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 569
Producer 1 produced item 579
Consumer 1 consumed item 570
Producer 2 produced item 580
Consumer 0 consumed item 571
Producer 0 produced item 581
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 572
Producer 0 produced item 582
Consumer 1 consumed item 573
Producer 1 produced item 583
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 574

Producer 2 produced item 584
Consumer 1 consumed item 575
Producer 0 produced item 585
Consumer 0 consumed item 576
Consumer 1 consumed item 577
Consumer 0 consumed item 578
Producer 2 produced item 586
Producer 1 produced item 587
Producer 0 produced item 588
Consumer 0 consumed item 579
Producer 1 produced item 589
Consumer 1 consumed item 580
Producer 2 produced item 590
Consumer 0 consumed item 581
Producer 0 produced item 591
Consumer 1 consumed item 582
Producer 1 produced item 592
Consumer 0 consumed item 583
Consumer 1 consumed item 584
Producer 2 produced item 593
Consumer 1 consumed item 585
Consumer 0 consumed item 586
Producer 1 produced item 594
Producer 0 produced item 595
Producer 2 produced item 596
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 587
Consumer 0 consumed item 588
Producer 1 produced item 597
Producer 2 produced item 598
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 589
Producer 2 produced item 599
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 590
Producer 1 produced item 600
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 591
Producer 0 produced item 601
Consumer 1 consumed item 592
Producer 2 produced item 602

Queue full! Producer 0 going to sleep
Consumer 0 consumed item 593
Producer 1 produced item 603
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 594
Producer 0 produced item 604
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 595
Producer 1 produced item 605
Consumer 1 consumed item 596
Producer 2 produced item 606
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 597
Producer 0 produced item 607
Consumer 1 consumed item 598
Producer 2 produced item 608
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 599
Producer 1 produced item 609
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 600
Producer 0 produced item 610
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 601
Producer 2 produced item 611
Consumer 1 consumed item 602
Producer 0 produced item 612
Consumer 0 consumed item 603
Producer 1 produced item 613
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 604
Producer 2 produced item 614
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 605
Consumer 0 consumed item 606
Producer 1 produced item 615
Producer 0 produced item 616
Consumer 1 consumed item 607
Producer 2 produced item 617
Consumer 1 consumed item 608

Producer 1 produced item 618
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 609
Producer 1 produced item 619
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 610
Consumer 0 consumed item 611
Producer 1 produced item 620
Producer 0 produced item 621
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 612
Producer 2 produced item 622
Consumer 0 consumed item 613
Producer 1 produced item 623
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 614
Producer 2 produced item 624
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 615
Producer 0 produced item 625
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 616
Producer 1 produced item 626
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 617
Producer 0 produced item 627
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 618
Consumer 1 consumed item 619
Producer 1 produced item 628
Producer 2 produced item 629
Consumer 1 consumed item 620
Producer 0 produced item 630
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 621
Producer 1 produced item 631
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 622
Producer 2 produced item 632
Consumer 0 consumed item 623
Producer 1 produced item 633
Consumer 0 consumed item 624

Producer 0 produced item 634
Consumer 1 consumed item 625
Consumer 0 consumed item 626
Producer 1 produced item 635
Producer 2 produced item 636
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 627
Producer 0 produced item 637
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 628
Producer 2 produced item 638
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 629
Producer 1 produced item 639
Consumer 1 consumed item 630
Producer 2 produced item 640
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 631
Producer 0 produced item 641
Consumer 1 consumed item 632
Producer 2 produced item 642
Consumer 1 consumed item 633
Producer 1 produced item 643
Consumer 0 consumed item 634
Producer 0 produced item 644
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 635
Producer 2 produced item 645
Consumer 0 consumed item 636
Producer 1 produced item 646
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 637
Consumer 0 consumed item 638
Producer 0 produced item 647
Producer 2 produced item 648
Consumer 0 consumed item 639
Producer 0 produced item 649
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep

Consumer 1 consumed item 640
Producer 1 produced item 650
Consumer 0 consumed item 641
Producer 0 produced item 651
Consumer 1 consumed item 642
Producer 0 produced item 652
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 643
Producer 2 produced item 653
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 644
Producer 1 produced item 654
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 645
Producer 0 produced item 655
Consumer 1 consumed item 646
Producer 2 produced item 656
Consumer 0 consumed item 647
Producer 1 produced item 657
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 648
Producer 1 produced item 658
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 649
Producer 0 produced item 659
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 650
Producer 1 produced item 660
Consumer 1 consumed item 651
Producer 2 produced item 661
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 652
Producer 0 produced item 662
Consumer 0 consumed item 653
Producer 1 produced item 663
Consumer 0 consumed item 654
Producer 2 produced item 664
Consumer 1 consumed item 655
Consumer 1 consumed item 656
Producer 1 produced item 665
Consumer 0 consumed item 657

Producer 0 produced item 666
Producer 2 produced item 667
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 658
Producer 2 produced item 668
Consumer 1 consumed item 659
Producer 1 produced item 669
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 660
Producer 0 produced item 670
Consumer 0 consumed item 661
Producer 2 produced item 671
Consumer 1 consumed item 662
Producer 1 produced item 672
Consumer 1 consumed item 663
Producer 0 produced item 673
Consumer 0 consumed item 664
Producer 2 produced item 674
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 665
Producer 0 produced item 675
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 666
Producer 1 produced item 676
Consumer 0 consumed item 667
Producer 2 produced item 677
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 668
Consumer 0 consumed item 669
Producer 0 produced item 678
Producer 2 produced item 679
Consumer 1 consumed item 670
Producer 1 produced item 680
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 671
Producer 0 produced item 681
Consumer 0 consumed item 672
Producer 2 produced item 682
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 673

Producer 1 produced item 683
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 674
Producer 2 produced item 684
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 675
Consumer 0 consumed item 676
Producer 1 produced item 685
Producer 0 produced item 686
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 677
Producer 0 produced item 687
Consumer 1 consumed item 678
Producer 1 produced item 688
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 679
Producer 2 produced item 689
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 680
Producer 0 produced item 690
Consumer 0 consumed item 681
Consumer 1 consumed item 682
Producer 1 produced item 691
Consumer 1 consumed item 683
Producer 2 produced item 692
Producer 1 produced item 693
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 684
Producer 1 produced item 694
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 685
Consumer 0 consumed item 686
Producer 0 produced item 695
Consumer 0 consumed item 687
Producer 2 produced item 696
Consumer 1 consumed item 688
Producer 0 produced item 697
Producer 1 produced item 698
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 689
Producer 1 produced item 699

Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 690
Producer 2 produced item 700
Consumer 0 consumed item 691
Producer 0 produced item 701
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 692
Producer 2 produced item 702
Consumer 1 consumed item 693
Producer 1 produced item 703
Consumer 0 consumed item 694
Producer 0 produced item 704
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 695
Producer 2 produced item 705
Consumer 0 consumed item 696
Consumer 0 consumed item 697
Producer 1 produced item 706
Producer 0 produced item 707
Consumer 1 consumed item 698
Producer 2 produced item 708
Consumer 1 consumed item 699
Consumer 0 consumed item 700
Producer 0 produced item 709
Producer 2 produced item 710
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 701
Producer 1 produced item 711
Consumer 1 consumed item 702
Producer 0 produced item 712
Consumer 0 consumed item 703
Consumer 1 consumed item 704
Producer 1 produced item 713
Producer 2 produced item 714
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 705
Producer 1 produced item 715
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 706
Producer 0 produced item 716
Consumer 1 consumed item 707
Producer 1 produced item 717

Queue full! Producer 2 going to sleep
Consumer 0 consumed item 708
Producer 2 produced item 718
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 709
Producer 1 produced item 719
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 710
Producer 0 produced item 720
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 711
Producer 2 produced item 721
Consumer 1 consumed item 712
Producer 1 produced item 722
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 713
Producer 0 produced item 723
Consumer 0 consumed item 714
Producer 2 produced item 724
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 715
Producer 1 produced item 725
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 716
Producer 0 produced item 726
Consumer 0 consumed item 717
Producer 2 produced item 727
Consumer 1 consumed item 718
Consumer 1 consumed item 719
Producer 2 produced item 728
Producer 1 produced item 729
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 720
Producer 1 produced item 730
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 721
Producer 2 produced item 731
Consumer 0 consumed item 722
Consumer 1 consumed item 723
Producer 1 produced item 732
Producer 0 produced item 733

Consumer 0 consumed item 724
Producer 0 produced item 734
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 725
Consumer 0 consumed item 726
Producer 2 produced item 735
Producer 0 produced item 736
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 727
Producer 1 produced item 737
Consumer 1 consumed item 728
Producer 0 produced item 738
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 729
Producer 2 produced item 739
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 730
Producer 1 produced item 740
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 731
Producer 0 produced item 741
Consumer 1 consumed item 732
Producer 2 produced item 742
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 733
Producer 1 produced item 743
Consumer 1 consumed item 734
Producer 0 produced item 744
Consumer 0 consumed item 735
Producer 2 produced item 745
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 736
Producer 1 produced item 746
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 737
Producer 0 produced item 747
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 738

Consumer 1 consumed item 739
Producer 2 produced item 748
Producer 1 produced item 749
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 740
Producer 0 produced item 750
Consumer 0 consumed item 741
Producer 1 produced item 751
Consumer 1 consumed item 742
Producer 2 produced item 752
Consumer 1 consumed item 743
Producer 0 produced item 753
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 744
Producer 2 produced item 754
Consumer 0 consumed item 745
Consumer 1 consumed item 746
Producer 0 produced item 755
Producer 1 produced item 756
Consumer 0 consumed item 747
Consumer 1 consumed item 748
Producer 2 produced item 757
Producer 0 produced item 758
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 749
Consumer 0 consumed item 750
Producer 2 produced item 759
Producer 1 produced item 760
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 751
Producer 2 produced item 761
Consumer 1 consumed item 752
Producer 1 produced item 762
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 753
Producer 0 produced item 763
Queue full! Producer 0 going to sleep

Consumer 1 consumed item 754
Producer 2 produced item 764
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 755
Consumer 0 consumed item 756
Producer 0 produced item 765
Producer 1 produced item 766
Consumer 0 consumed item 757
Producer 2 produced item 767
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 758
Producer 1 produced item 768
Consumer 1 consumed item 759
Producer 2 produced item 769
Consumer 0 consumed item 760
Producer 1 produced item 770
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 761
Producer 0 produced item 771
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 762
Producer 0 produced item 772
Consumer 1 consumed item 763
Producer 2 produced item 773
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 764
Producer 1 produced item 774
Consumer 0 consumed item 765
Producer 0 produced item 775
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 766
Producer 2 produced item 776
Consumer 1 consumed item 767
Producer 0 produced item 777
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 768
Producer 1 produced item 778
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 769
Producer 0 produced item 779
Queue full! Producer 2 going to sleep

Consumer 1 consumed item 770
Producer 1 produced item 780
Consumer 0 consumed item 771
Producer 2 produced item 781
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 772
Producer 0 produced item 782
Consumer 0 consumed item 773
Producer 1 produced item 783
Consumer 0 consumed item 774
Producer 2 produced item 784
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 775
Producer 2 produced item 785
Consumer 1 consumed item 776
Producer 1 produced item 786
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 777
Producer 0 produced item 787
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 778
Producer 1 produced item 788
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 779
Producer 2 produced item 789
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 780
Producer 0 produced item 790
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 781
Producer 1 produced item 791
Consumer 1 consumed item 782
Producer 1 produced item 792
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 783
Producer 0 produced item 793
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 784
Producer 2 produced item 794
Queue full! Producer 2 going to sleep

Queue full! Producer 0 going to sleep
Consumer 1 consumed item 785
Producer 1 produced item 795
Consumer 0 consumed item 786
Producer 2 produced item 796
Consumer 0 consumed item 787
Producer 2 produced item 797
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 788
Producer 1 produced item 798
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 789
Producer 0 produced item 799
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 790
Consumer 1 consumed item 791
Producer 0 produced item 800
Producer 1 produced item 801
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 792
Producer 2 produced item 802
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 793
Producer 1 produced item 803
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 794
Producer 0 produced item 804
Consumer 1 consumed item 795
Producer 2 produced item 805
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 796
Producer 1 produced item 806
Consumer 1 consumed item 797
Producer 0 produced item 807
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 798
Producer 2 produced item 808
Consumer 1 consumed item 799
Producer 0 produced item 809
Queue full! Producer 2 going to sleep

Queue full! Producer 1 going to sleep
Consumer 1 consumed item 800
Producer 2 produced item 810
Consumer 0 consumed item 801
Producer 1 produced item 811
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 802
Producer 0 produced item 812
Consumer 1 consumed item 803
Producer 1 produced item 813
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 804
Producer 2 produced item 814
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 805
Producer 1 produced item 815
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 806
Producer 0 produced item 816
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 807
Producer 2 produced item 817
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 808
Producer 1 produced item 818
Consumer 0 consumed item 809
Producer 0 produced item 819
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 810
Producer 0 produced item 820
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 811
Producer 2 produced item 821
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 812
Producer 0 produced item 822
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 813
Consumer 0 consumed item 814
Producer 1 produced item 823
Producer 2 produced item 824

Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 815
Producer 2 produced item 825
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 816
Producer 1 produced item 826
Consumer 1 consumed item 817
Producer 2 produced item 827
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 818
Producer 1 produced item 828
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 819
Producer 0 produced item 829
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 820
Producer 2 produced item 830
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 821
Producer 0 produced item 831
Consumer 1 consumed item 822
Producer 2 produced item 832
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 823
Producer 1 produced item 833
Consumer 1 consumed item 824
Producer 0 produced item 834
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 825
Producer 1 produced item 835
Consumer 1 consumed item 826
Producer 0 produced item 836
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 827
Producer 2 produced item 837
Consumer 1 consumed item 828
Producer 0 produced item 838
Consumer 0 consumed item 829
Producer 1 produced item 839

Queue full! Producer 2 going to sleep
Consumer 0 consumed item 830
Producer 2 produced item 840
Consumer 1 consumed item 831
Producer 0 produced item 841
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 832
Producer 1 produced item 842
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 833
Producer 2 produced item 843
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 834
Producer 1 produced item 844
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 835
Consumer 0 consumed item 836
Producer 0 produced item 845
Producer 2 produced item 846
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 837
Producer 1 produced item 847
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 838
Producer 0 produced item 848
Consumer 1 consumed item 839
Producer 2 produced item 849
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 840
Consumer 1 consumed item 841
Producer 0 produced item 850
Producer 1 produced item 851
Consumer 0 consumed item 842
Producer 2 produced item 852
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 843
Producer 2 produced item 853
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 844
Consumer 1 consumed item 845
Producer 1 produced item 854
Producer 0 produced item 855

Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 846
Producer 1 produced item 856
Consumer 0 consumed item 847
Producer 2 produced item 857
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 848
Producer 0 produced item 858
Consumer 0 consumed item 849
Producer 2 produced item 859
Consumer 0 consumed item 850
Producer 0 produced item 860
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 851
Producer 1 produced item 861
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 852
Producer 0 produced item 862
Consumer 0 consumed item 853
Producer 1 produced item 863
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 854
Producer 2 produced item 864
Consumer 0 consumed item 855
Producer 1 produced item 865
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 856
Producer 2 produced item 866
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 857
Producer 0 produced item 867
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 858
Producer 1 produced item 868
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 859
Producer 2 produced item 869
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 860
Producer 1 produced item 870

Consumer 1 consumed item 861
Producer 0 produced item 871
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 862
Producer 2 produced item 872
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 863
Producer 2 produced item 873
Consumer 1 consumed item 864
Producer 0 produced item 874
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 865
Producer 1 produced item 875
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 866
Producer 0 produced item 876
Consumer 1 consumed item 867
Producer 2 produced item 877
Consumer 0 consumed item 868
Producer 1 produced item 878
Consumer 1 consumed item 869
Consumer 0 consumed item 870
Consumer 1 consumed item 871
Producer 0 produced item 879
Consumer 0 consumed item 872
Producer 1 produced item 880
Producer 0 produced item 881
Producer 2 produced item 882
Consumer 0 consumed item 873
Consumer 1 consumed item 874
Producer 1 produced item 883
Producer 0 produced item 884
Consumer 1 consumed item 875
Consumer 0 consumed item 876
Consumer 1 consumed item 877
Producer 1 produced item 885
Producer 2 produced item 886
Producer 0 produced item 887
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 878
Producer 2 produced item 888

Queue full! Producer 1 going to sleep
Consumer 0 consumed item 879
Producer 0 produced item 889
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 880
Producer 1 produced item 890
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 881
Producer 0 produced item 891
Consumer 0 consumed item 882
Consumer 1 consumed item 883
Consumer 0 consumed item 884
Producer 2 produced item 892
Consumer 1 consumed item 885
Consumer 1 consumed item 886
Producer 2 produced item 893
Producer 1 produced item 894
Consumer 0 consumed item 887
Producer 0 produced item 895
Consumer 1 consumed item 888
Producer 2 produced item 896
Producer 1 produced item 897
Consumer 0 consumed item 889
Consumer 1 consumed item 890
Consumer 0 consumed item 891
Producer 1 produced item 898
Producer 0 produced item 899
Producer 2 produced item 900
Producer 0 produced item 901
Consumer 0 consumed item 892
Consumer 1 consumed item 893
Producer 1 produced item 902
Consumer 0 consumed item 894
Producer 2 produced item 903
Producer 2 produced item 904
Consumer 0 consumed item 895
Consumer 0 consumed item 896
Producer 2 produced item 905
Producer 0 produced item 906
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 897
Producer 1 produced item 907
Consumer 1 consumed item 898
Producer 0 produced item 908

Consumer 1 consumed item 899
Producer 2 produced item 909
Consumer 1 consumed item 900
Consumer 0 consumed item 901
Producer 1 produced item 910
Consumer 0 consumed item 902
Producer 0 produced item 911
Producer 1 produced item 912
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 903
Producer 2 produced item 913
Consumer 0 consumed item 904
Producer 0 produced item 914
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 905
Producer 1 produced item 915
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 906
Producer 2 produced item 916
Consumer 0 consumed item 907
Producer 1 produced item 917
Consumer 0 consumed item 908
Producer 0 produced item 918
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 909
Producer 1 produced item 919
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 910
Producer 0 produced item 920
Consumer 1 consumed item 911
Producer 2 produced item 921
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 912
Producer 2 produced item 922
Consumer 0 consumed item 913
Producer 0 produced item 923
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 914

Producer 1 produced item 924
Consumer 1 consumed item 915
Producer 2 produced item 925
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 916
Consumer 1 consumed item 917
Producer 0 produced item 926
Producer 2 produced item 927
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 918
Producer 1 produced item 928
Consumer 1 consumed item 919
Producer 0 produced item 929
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 920
Producer 2 produced item 930
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 921
Producer 1 produced item 931
Consumer 0 consumed item 922
Producer 0 produced item 932
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 923
Consumer 1 consumed item 924
Producer 0 produced item 933
Producer 2 produced item 934
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 925
Producer 1 produced item 935
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 926
Producer 0 produced item 936
Consumer 0 consumed item 927
Producer 0 produced item 937
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 928
Producer 1 produced item 938
Consumer 1 consumed item 929
Producer 1 produced item 939
Queue full! Producer 2 going to sleep

Consumer 1 consumed item 930
Producer 2 produced item 940
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 931
Producer 0 produced item 941
Consumer 1 consumed item 932
Producer 1 produced item 942
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 933
Producer 0 produced item 943
Consumer 0 consumed item 934
Producer 1 produced item 944
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 935
Producer 2 produced item 945
Consumer 1 consumed item 936
Consumer 0 consumed item 937
Producer 0 produced item 946
Producer 2 produced item 947
Consumer 1 consumed item 938
Producer 1 produced item 948
Consumer 1 consumed item 939
Consumer 0 consumed item 940
Producer 2 produced item 949
Consumer 0 consumed item 941
Producer 0 produced item 950
Producer 1 produced item 951
Consumer 1 consumed item 942
Producer 2 produced item 952
Consumer 0 consumed item 943
Consumer 1 consumed item 944
Consumer 0 consumed item 945
Producer 0 produced item 953
Producer 1 produced item 954
Producer 0 produced item 955
Consumer 0 consumed item 946
Consumer 1 consumed item 947
Consumer 0 consumed item 948
Producer 1 produced item 956
Producer 2 produced item 957
Producer 0 produced item 958
Consumer 1 consumed item 949
Consumer 0 consumed item 950
Producer 1 produced item 959

Consumer 0 consumed item 951
Consumer 0 consumed item 952
Producer 2 produced item 960
Consumer 1 consumed item 953
Consumer 0 consumed item 954
Producer 2 produced item 961
Producer 0 produced item 962
Producer 1 produced item 963
Consumer 0 consumed item 955
Producer 0 produced item 964
Producer 2 produced item 965
Consumer 1 consumed item 956
Producer 1 produced item 966
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 957
Producer 0 produced item 967
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 958
Producer 2 produced item 968
Queue full! Producer 1 going to sleep
Queue full! Producer 2 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 959
Producer 1 produced item 969
Consumer 1 consumed item 960
Consumer 0 consumed item 961
Producer 0 produced item 970
Producer 2 produced item 971
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 962
Producer 1 produced item 972
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 963
Producer 2 produced item 973
Consumer 0 consumed item 964
Producer 0 produced item 974
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 1 consumed item 965
Producer 2 produced item 975
Consumer 0 consumed item 966
Producer 1 produced item 976
Consumer 1 consumed item 967

Producer 0 produced item 977
Consumer 0 consumed item 968
Producer 0 produced item 978
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 969
Producer 2 produced item 979
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 970
Producer 1 produced item 980
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 0 consumed item 971
Producer 0 produced item 981
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 972
Producer 0 produced item 982
Consumer 0 consumed item 973
Producer 2 produced item 983
Queue full! Producer 1 going to sleep
Consumer 0 consumed item 974
Producer 1 produced item 984
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 975
Producer 0 produced item 985
Queue full! Producer 1 going to sleep
Queue full! Producer 0 going to sleep
Consumer 0 consumed item 976
Producer 2 produced item 986
Consumer 1 consumed item 977
Consumer 0 consumed item 978
Producer 1 produced item 987
Producer 0 produced item 988
Consumer 1 consumed item 979
Consumer 0 consumed item 980
Producer 1 produced item 989
Producer 2 produced item 990
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 981
Producer 0 produced item 991
Queue full! Producer 2 going to sleep
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 982
Producer 2 produced item 992

Queue full! Producer 0 going to sleep
Consumer 0 consumed item 983
Producer 1 produced item 993
Queue full! Producer 1 going to sleep
Consumer 1 consumed item 984
Producer 0 produced item 994
Queue full! Producer 0 going to sleep
Queue full! Producer 2 going to sleep
Consumer 1 consumed item 985
Producer 1 produced item 995
Consumer 0 consumed item 986
Producer 0 produced item 996
Consumer 1 consumed item 987
Producer 2 produced item 997
Consumer 0 consumed item 988
Producer 1 produced item 998
Consumer 1 consumed item 989
Producer 0 produced item 999
Consumer 0 consumed item 990
Producer 2 produced item 1000
Consumer 1 consumed item 991
Consumer 1 consumed item 992
Consumer 0 consumed item 993
Consumer 0 consumed item 994
Consumer 1 consumed item 995
Consumer 1 consumed item 996
Consumer 0 consumed item 997
Consumer 1 consumed item 998
Consumer 0 consumed item 999
Consumer 1 consumed item 1000

Part 3

I went in main.c in the kernel main directory and added my name to the part where it said put your group name here like so.

```

kprintf("\n");
kprintf("OS/161 base system version %s\n", BASE_VERSION);
kprintf("%s", harvard_copyright);
kprintf("\n");
kprintf("Zi Yan Mei system version %s (%s #d)\n",
        GROUP_VERSION, buildconfig, buildversion);
kprintf("\n");

ram_bootstrap();
scheduler_bootstrap();
thread_bootstrap();
vfs_bootstrap();
dev_bootstrap();
vm_bootstrap();
kprintf_bootstrap();

```

The output for it is listed here when I boot up the kernel

```

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Zi Yan Mei system version 0 (ASST0 #6)

Cpu is MIPS r2000/r3000
336k physical memory available
Device probe...
lamebus0 (system main bus)
emu0 at lamebus0
ltrace0 at lamebus0
ltimer0 at lamebus0
hardclock on ltimer0 (100 hz)
beep0 at ltimer0
rtclock0 at ltimer0
lrandom0 at lamebus0
random0 at lrandom0
lhd0 at lamebus0
lhd1 at lamebus0
lser0 at lamebus0
con0 at lser0

```