

Georgia Institute of Technology

CS4290/CS6290/ECE4100/ECE6100

- How to iterate the mshr and check a memory type?

```
list::const_iterator cii;
m_mshr_entry_s* entry;

for (cii= m_mshr.begin() ; cii != m_mshr.end(); cii++) {

    entry = (*cii);

    if (!entry->valid) continue;

    mem_req_s *req  = entry->m_mem_req;

    if (req->m_state == MEM_NEW) {
        // do some useful work

    // if you want to stop after doing useful work call retur here
        return;
    }
}
```

- How to pop a memory request from a queue (e.g. queue1) and send it to another queue (eq. queue2)?

Basically,

- (1) `mem_req_s *t_mem_req = queue1.front()` to get a memory request (you are just peeking the first entry in the queue)
- (2) Ready to move to the other queue?
- (3) `queue.pop()`: actually popping
- (4) `queue2.push_back(t_mem_req)` : pushing the memory request into the back of the other queue

```
// check whether a queue is empty or not

if (dram_in_queue.empty()) return;

// calling front gives the first entry (read-only)
mem_req_s *t_mem_req = dram_in_queue.front();
```

```
// prevent from checking null objects
if (!t_mem_req) return;

// pop removes one entry from the queue.
dram_in_queue.pop_front();

assert(t_mem_req->m_state == MEM_DRAM_IN);

int dram_bank_id = get_dram_bank_id(t_mem_req->m_addr);

// push_back:
dram_bank_sch_queue[dram_bank_id].push_back(t_mem_req);
```