



How do you turn this into an Asynchronous FIFO?

What are the problems?

- \* head & tail cross clock domains
  - + Add "synchronizers"
- \* Can't synchronize multiple bits
  - + Use Gray Code

Note:  $(\text{head} \neq \text{tail} + 1) \equiv (\text{head} - 1 \neq \text{tail})$