

C307 Data Representation

Unit-2, Part B7
Array as Queue

By:



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What is a Queue?



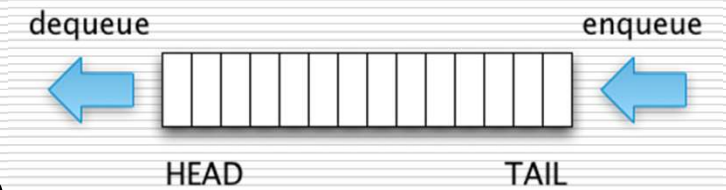
- A data structure in which elements are added from one end (tail) and removed from the other end (head) of the structure (FIFO).

- Queue Operations:

```
void Enqueue(TYPE value); // Insert an element into the queue (at the tail)
TYPE Dequeue(void);       // Remove an element from the head of the queue

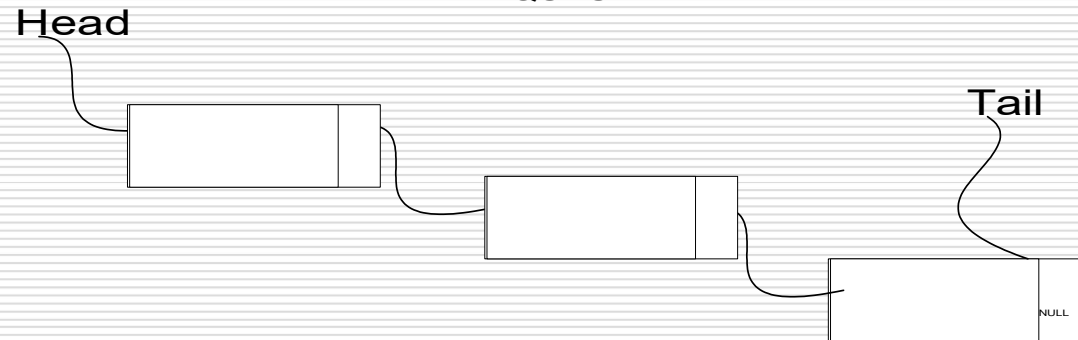
boolean isEmpty(void);     // Returns TRUE if queue is empty
void Print (void);
void Reset (void);
```

Implementation

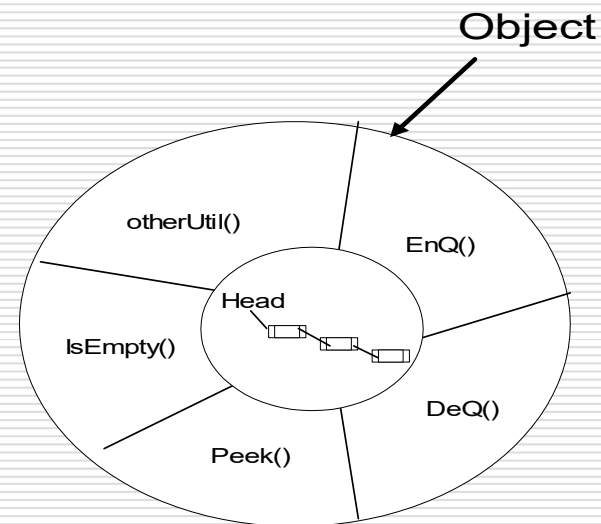


<https://cs.lmu.edu/~ray/notes/queues/>

QUEUE



Queue can be implemented as an **array** or a **linked list**



Originally

Queue is empty

enqueue block2



front = block2

rear = block2

enqueue block3



front = block2

rear = block3

enqueue block5



front = block2

rear = block5

dequeue



front = block3

rear = block5

enqueue block4



front = block3

rear = block4