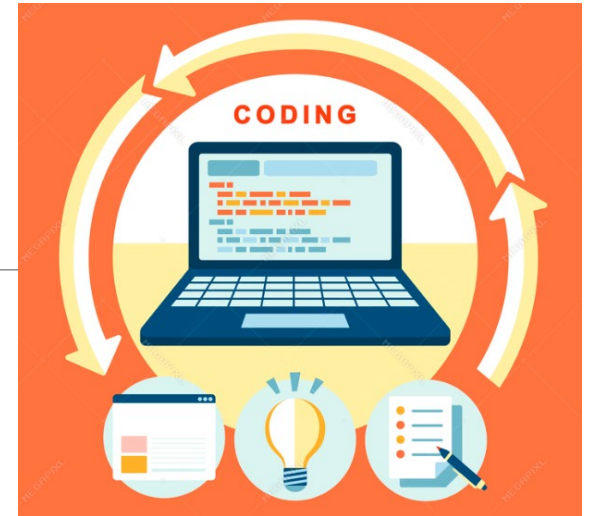


자료구조

InLab



≡ (Queue)

ADT(Abstract Data Type)

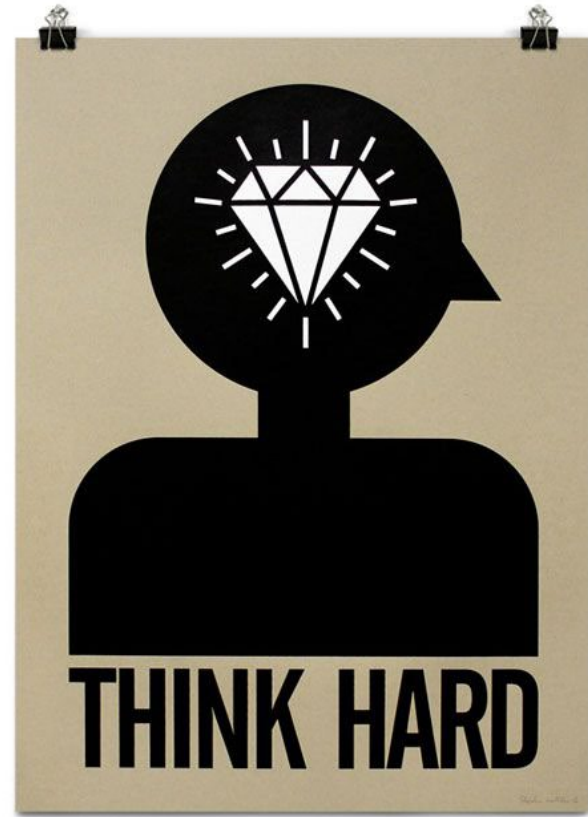


| 작업: ADT (구현자 관점) | 명령어 (사용자 관점) | 실행 결과 (자료 관점) |
|---------------------------------|--|--|
| create (my_queue) | <code>char my_queue[Max_Size]; //static queue</code> | |
| enqueue (my_queue, data) | <code>+a +b +c +d</code> | <code>a b c d</code> <code>// head = -1 & tail = 3</code> |
| print (my_queue) | <code>L</code> | <code>a b c d</code> |
| peek (my_queue) | <code>P</code> | <code>a</code> |
| dequeue (my_queue) | <code>- -</code> | <code>return a b</code> <code>c d // head = 1</code> |

| 작업: ADT (구현자 관점) | 명령어 (사용자 관점) | 실행 결과 (자료 관점) |
|--------------------------------------|-----------------|--|
| enqueue(my_queue, data) | +e +f +g | c d e f g // tail = 6 |
| is_full(my_queue) | F | False // tail==Max_Size? |
| data_count(my_queue) | # | 5 // tail - head |
| head(my_queue) | H | 3 // head + 2 |
| tail(my_queue) | T | 7 // tail + 1 |
| dequeue(my_queue) // (i.e. -----) | 5- | return c d e f g // head = 6 & tail = 6 |
| dequeue(my_queue) | - | Error (nothing to dequeue) |

| 작업: ADT (구현자 관점) | 명령어 (사용자 관점) | 실행 결과 (자료 관점) |
|--|-----------------|---|
| <code>is_empty(my_queue)</code> | E | True |
| <code>enqueue(my_queue, data)</code> // what if Max_Size is 6 | +h +i +j | //is_full, check blank & shift h i j // head=-1 & tail=2 |
| <code>is_member(my_queue, data)</code> | ?h | 1 (-1 if not in the queue) |
| <code>replace(my_queue, new_data)</code> // the tail data | =m | h i m |
| <code>clear(my_queue)</code> // (i.e. for # {-}) | C | |

자신만의 기능을 5개 추가해보세요!



【도전】Deque 설계 및 구현

