Estructura de datos y algoritmos

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Stack


VISUALGO.NET / en /list
LL
STACK
QUEUE
DLL
DEQUE
Exploration Mode
LOGIN
Create(A)
Peek
Push
Pop
1x
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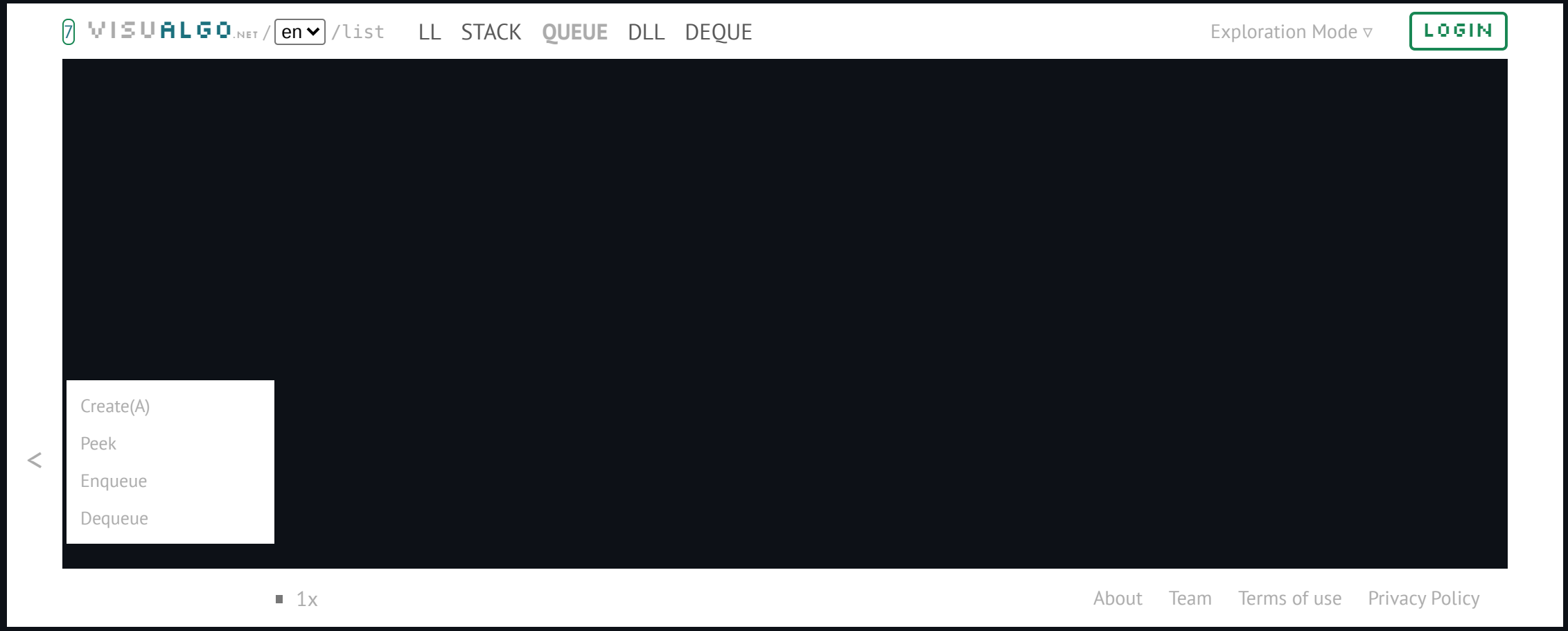
```
class Stack {
  class Node {
    int data;
    Node next;
    public Node(int data) {
      this.data = data;
      this.next = null;
    }
  }
  Node head;
  public Stack() { this.head = null; }
  public void push(int e) {
    Node newNode = new Node(e);
    if (head != null) {
      newNode.next = head;
    }
    head = newNode;
  }
  public int pop() {
    int e = head.data;
    head = head.next;
    return e;
  }
  public int peek() { return head.data; }
}
```

Complejidad:

- `push`: O(1)
- `pop`: O(1)
- `peek`: O(1)

Queue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```
class Queue {
  class Node {
    int data;
    Node next;
    public Node(int data) {
      this.data = data;
      this.next = null;
    }
  }
  Node head, tail;
  public Queue() {
    this.head = this.tail = null;
  }
  public void enqueue(int e) {
    Node newNode = new Node(e);
    if (head == null) {
      head = tail = newNode;
    } else {
      tail.next = newNode;
      tail = newNode;
    }
  }
  public int dequeue() {
    int e = head.data;
    head = head.next;
    return e;
  }
  public int peek() {
    return head.data;
  }
}
```

Complejidad:

- `enqueue`: O(1)
- `dequeue`: O(1)
- `peek`: O(1)

- Stack using two queues
- Balanced brackets
- Reverse a doubly linked list
- Add two numbers
- Merge two sorted lists