1. A *queue* is a container (like a list) that holds many values. There are two important operations: enqueue and dequeue. enqueue is a procedure that adds a value to the queue. dequeue removes and returns that element of the queue that was added first. It is a first-in, first-out or FIFO ("five-oh") structure. If we wait in line, that’s a queue: the person waiting the longest is the next to get attention.

   a. Inside the queue class, we’ll use a Python list to hold the queue values:

```python
class queue(object):
    __slots__ = ['_lst']
    def __init__(self):
        """Initialize the queue."""
        self._lst = []

    def enqueue(self,v):
        """Add an element to a queue; it will be 'last in line'.""
```

   b. Write the dequeue method for this class. Remember: it removes and returns the longest-waiting value from the queue.

```python
    def dequeue(self):
        """Remove and return longest-waiting value in the non-empty queue.""
```
2. A stack is a container that also offers two operations: push and pop. push is a procedure that adds a value to the stack. pop is a function that removes and returns that element of the stack that was added last. It is a last-in, first-out or LIFO (“life-oh”) structure. Dining hall trays are stored in a stack: the tray on the top is used frequently while the tray at the bottom is rarely used.

a. Inside the stack class, we’ll use a tuple object to hold the stack values:

```python
class stack(object):
    __slots__ = ['tup']
    def __init__(self):
        """Initialize the stack."""
        self._tup = ()

Write the push method for this class:

def push(self, v):
    """Add v to the stack."""
```

b. Write a method isEmpty for this class. It is a property of the stack that is True if the stack is empty, and False otherwise:

```python
@property
def isEmpty(self):
    """Return True iff the stack is empty."""
```

c. Write the pop method for this class, returning the popped value:

```python
def pop(self):
    """Remove and return value most recently added to the non-empty stack."""
```