

Traceability Matrix

Functionality	Implementation	Tests
Checks if queue is empty	empty() - returns True if queue is empty and False if otherwise	test_empty() - tests if True is returned when empty and False when not
Checks if queue is full	full() - returns True if queue is full and False if otherwise	test_full() - tests if True is returned when full and False when not
Gets size of queue	qsize() - returns the size of the queue, specifically the number of elements	test_qsize() - tests whether correct size is returned upon adding and removing elements
Adds an element to queue in priority order	put(item, block, timeout) – adds and item to the queue in priority order – highest to lowest	test_put() - tests if items are successfully added in priority order, tested ints and strings test_fullEx() - tests if Exception is raised when attempting to add items when queue is full
Removes and returns element from queue in priority order	get(block, timeout) – removes and returns an item from the queue in priority – highest to lowest	test_get() - tests if items are successfully removed in priority order, tested ints and strings test_emptyEx() - tests if Exception is raised when attempting to remove items when queue is empty