# Traceability Matrix

*pq = PriorityQueue()*

|  |  |  |
| --- | --- | --- |
| ***Functionality*** | ***Implementation*** | ***Test Results*** |
| Put objects with priority numbers inside the queue and checks if put works. | Lines 10-18 using pq.put()  pq.put(2, ‘love’)  pq.put(1, ‘I’)  pq.put(4, ‘DSA’)  pq.put(5, ‘unit’)  if pq.put(3, ‘the’) is false, raise exception, else print success text  Only tested with exception handling for the pq.put(3, ‘the’) because if that fails, everything else will definitely fail. If that object is inserted, print(‘put succeeded’) | [PASSED]  Put succeeded  Which means object pairs are successfully inserted into the priority queue in accordance with their priority. |
| Count number of objects in the priority queue | Line 21 using pq.size() | [PASSED]  The number of objects in the queue is: 5 |
| Check if queue is empty when queue is definitely not empty. | Line 21 using pq.empty() | [PASSED]  True or False, The queue is empty: False |
| Print the objects according with their priority, this in turn removes them from the queue. | Lines 24 – 25 using while loop and pq.get() | [PASSED]  (1, 'I')  (2, 'love')  (3, 'the')  (4, 'DSA')  (5, 'unit') |
| Check if queue is empty when queue is definitely empty | Line 27 using pq.empty() | True or False, The queue is empty: True |