Test Scenarios for StudentCollection – *samples (not complete!)*

(note – the set of test scenarios for retrieveStudentByKey(…) is a *subset* of those necessary to *thoroughly* test retrieveStudentByKey())

| method being tested | Rule / requirement being tested | Setup work required | Test value supplied to method being tested | Expected result of executing method |
| --- | --- | --- | --- | --- |
| isEmpty() |  |  |  |  |
|  | indicator of whether collection is empty | create collection | none | true |
|  | “ | create collection; insert a student object | none | false |
|  |  |  |  |  |
| retrieveStudentByKey(key) |  |  |  |  |
|  | retrieve a student object with the specified key *if the key is present* | create collection; create a student object with a known key; insert the student object into collection | key used to create the student object | receive non-null handle;  key within received student object matches that used to create the original student object |
|  | retrieve null if a specified search key *is not present* | create collection; create a student object with a known key; insert the student object into collection | key OTHER THAN the one used to create the student object | receive null handle; |
|  | … | … | … | … |
|  |  |  |  |  |
|  |  |  |  |  |

(You can insert a block of rows into the table by highlighting the *n* rows of the table just *above* the desired insertion point, then right-clicking and choosing Insert🡪Insert rows *below*; to delete a block of rows, highlight the block, then right-click and choose Delete Cells🡪Delete Entire Row.)

Note: it’s generally considered “best practice” that “Expected result of executing unit” be quite specific when designing test scenarios *for black box testing*. The test scenarios are being designed without knowledge of the underlying implementation, and the level of detail provided for “expected results” will be most influential and useful when test scenarios are designed when they *should* be designed (***before*** implementation begins, not *after* implementation has been *completed*…).