# CSC148 Worksheet 2 Solution

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## Question 1

- | Relevant Property | Values to Try |
  |---|---|
  | The position of $< n1 >$ in $lst$ | front, back, somewhere else |
  | The position of $< n1 >$ after insertion | front, back, and somewhere else |
  | The position of $< n2 >$ beside $< n1 >$ after insertion | front, back and somewhere else |
  | Size of $lst$ | - Size of $lst$ after insertion<br>- Size of list before insertion |

**Correct Solution:**

| Relevant Property | Values to Try |
|---|---|
| The position of $< n1 >$ in $lst$ | front, back, somewhere else |
| Length of list | 0,1,'small' value |
| Number of occurences of lst | 0,1,'small' value,every value in $lst$ is $< n1 >$ |
| $< n1 > == < n2 >$ | true, false |

# Question 2

| lst | n1 | n2 | Purpose |
|---|---|---|---|
| $[0, 1, 2, 3]$ | 0 | 99 | $n1$ at the front |
| $[0, 1, 2, 3]$ | 0 | 99 | $n1$ at the back |
| $[0, 1, 2, 3]$ | 3 | 99 | $n1$ at somewhere else |
| $[0, 1, 2, 3]$ | 3 | 3 | $< n1 >$ the same as $< n2 >$ |
| $[0, 1, 2, 3]$ | 3 | 4 | $< n1 >$ not the same as $< n2 >$ |
| $[]$ | 3 | 4 | list with length of 0 |
| $[1]$ | 3 | 4 | list with length of 1 |
| $[1, 2, 3, 5, 6]$ | 3 | 4 | list with length of 'small' value |
| $[1, 5, 6, 7]$ | 3 | 4 | list with 0 occurrences of $< n1 >$ |
| $[1, 3, 5, 6]$ | 3 | 4 | list with 1 occurrences of $< n1 >$ |
| $[3, 3, 3, 3]$ | 3 | 4 | list with every occurrences of $< n1 >$ |

**Correct Solution:**

| lst | n1 | n2 | Purpose |
|---|---|---|---|
| $[0, 1, 2, 3]$ | 0 | 99 | $n1$ at the front |
| $[0, 1, 2, 3]$ | 3 | 99 | $n1$ at the back |
| $[0, 1, 2, 3]$ | 1 | 99 | $n1$ at somewhere else |
| $[0, 1, 2, 3]$ | 3 | 3 | $< n1 >$ the same as $< n2 >$ |
| $[0, 1, 2, 3]$ | 3 | 4 | $< n1 >$ not the same as $< n2 >$ |
| $[]$ | 3 | 4 | list with length of 0 |
| $[1]$ | 3 | 4 | list with length of 1 |
| $[1, 2, 3, 5, 6]$ | 3 | 4 | list with length of 'small' value |
| $[1, 5, 6, 7]$ | 3 | 4 | list with 0 occurrences of $< n1 >$ |
| $[1, 3, 5, 6]$ | 3 | 4 | list with 1 occurrences of $< n1 >$ |
| $[3, 3, 3, 3]$ | 3 | 4 | list with every occurrences of $< n1 >$ |

# Question 3