1. Given the following list of numbers and their corresponding index position:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Index Position** | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **List Elements** | 10 | 23 | 25 | 34 | 36 | 42 | 63 | 74 | 87 | 92 | 99 |

Use the table below to perform a binary search on the value 63:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Pass** | **Low Pointer Index Position** | **Middle Pointer Index Position** | **High Pointer Index Position** | **Found (Yes/No)** |
| 1 | 0 | 5 | 10 | No |
| 2 | 6 | 8 | 10 | No |
| 3 | 6 | 6 | 7 | Yes |

1. Given the following list of numbers and their corresponding index position:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Index Position** | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **List Elements** | 10 | 23 | 25 | 34 | 36 | 42 | 63 | 74 | 87 | 92 | 99 |

Use the table below to perform a binary search on the value 18:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Pass** | **Low Pointer Index Position** | **Middle Pointer Index Position** | **High Pointer Index Position** | **Found (Yes/No)** |
| 1 | 0 | 5 | 10 | No |
| 2 | 0 | 2 | 4 | No |
| 3 | 0 | 0 | 1 | No |
| 4 | 1 | 1 | 1 | No |
| 5 | 1 | - | 0 | Low pointer > high pointer. Value 18 is not in the list. |

Since High Pointer Larger than Low Pointer means 18 could not be found in the list