Task 01:

Insert: You have been given a linear array and size (number of elements) of it where all the numbers reside one after another starting from index Zero. Your job is to maintain this property while inserting a new element (say, elem) to a particular index (say, idx). However, you MUST NOT insert an element that already exists in that array.

public void insert (int[] a, int size, int elem, int idx){

}

Example 1:

Size = 10, elem = 9, idx = 3

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5 | 10 | 15 | 11 | 2 | 7 | 9 | 6 | 0 | 7 |

Output:

No Space Left.

Example 2:

Size = 7, elem = 9, idx = 3

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5 | 10 | 15 | 11 | 2 | 7 | 9 |  |  |  |

Output:

Element already exists in that array.

Example 3:

Size = 7, elem = 9, idx = 9

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5 | 10 | 15 | 11 | 2 | 7 | 9 |  |  |  |

Output:

Wrong Index

Example 4:

Size = 7, elem = 12, idx = 3

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5 | 10 | 15 | 11 | 2 | 7 | 9 |  |  |  |

Output:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5 | 10 | 15 | 12 | 11 | 2 | 7 | 9 |  |  |

Task 02:

Remove: You have been given a linear array and size (number of elements) of it where all the numbers reside one after another starting from index Zero. Your job is to maintain this property while removing an element from a particular index (say, idx). However, you MUST NOT remove an element that is unique in that array.

public void remove (int[] a, int size, int idx){

}

Example 1:

Size = 0, idx = 3

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Output:

Empty Array.

Example 2:

Size = 7, idx = 3

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5 | 10 | 15 | 11 | 2 | 7 | 9 |  |  |  |

Output:

Element is unique in that array.

Example 3:

Size = 7, idx = 7

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5 | 10 | 15 | 11 | 2 | 7 | 9 |  |  |  |

Output:

Wrong Index

Example 4:

Size = 7, idx = 2

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5 | 10 | 5 | 11 | 2 | 7 | 9 |  |  |  |

Output:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5 | 10 | 11 | 2 | 7 | 9 |  |  |  |  |