Problem Domain:

- Write a function called **insertShiftArray** which takes in an array and the value to be added. Without utilizing any of the built-in methods available to your language, return an array with the new value added at the middle index.

Input:

1. Int[]
2. Int

Output:

1. Int[]

**Visual**:

- Input [1,2,4,5], **3**
- Output [1,2,**3**,4,5]

Edge Case: Array < 2 or null array was sent

Algorith:

1. Create a function that takes (int[], int) as parameters and returns int[]
2. Create a new int[] that increases current max length + 1
3. Create an index variable for the original array and an index variable for the new array
4. Create
5. Find the middle index by taking the length of the array and divide by 2
6. Create a for loop that traverse the full length of the 2nd array
7. Make an if statement that looks for

Psuedo Code:

Algorithm InsertShift(int[] arr, int val)

- Declare int returnArr = arr + 1 in length
- Decare int for middle index = returnArr / 2
- Declare int index to traverse for loop
-
- returnArr[middle index] = val
-
- For index = 0; index < returnArr length; increment index
    - If n < middle index
        - returnArr[index] = arr[index]
    - if n > middle index
        - returnArr[index] = arr[index – 1]
- return returnArr

Verification:

[1,2,4,5], 3

returnArr = new int[length + 1]

middle Index = 2

| returnArr [,,,,] |
| --- |
| returnArr [,,3,,] |
| returnArr [1,,3,,] |
| returnArr [1,2,3,,] |
| returnArr [1,2,3,4,] |
| returnArr [1,2,3,4,5] |