Solutions

1.

Array	Value Returned
[5]	0
[3, 12]	9
[4, 2, 10, 8]	6
[1, 9, 3, 5, 7]	8
[8, 2, 10, 4, 10, 9]	2

2.

Array	Final Contents
[8]	[8]
[14, 7]	[14, 8]
[7, 1, 3, 2, 0, 4]	[7, 2, 3, 3, 1, 4]
[10, 8, 9, 5, 5]	[10, 9, 9, 6, 6]
[12, 11, 10, 10, 8, 7]	[12, 12, 11, 11, 9, 8]

3.

Array	Final Contents
[3, 7, 4]	[3, 3, 4]
[0, 3, 7, 4, 1]	[0, 3, 3, 2, 1]
[4, 3, 8, 5, 1, 2]	[4, 3, 4, 2, 1, 2]
[2, 1, 5, 4, 10, 6, 2]	[2, 1, 2, 4, 5, 6, 2]
[1, 2, 1, 2, 1, 2, 1]	[1, 1, 1, 1, 1, 1, 1]

4. (two solutions shown)

```
public static int findMin(int[] list) {        public static int findMin(int[] list) {
    int min = list[0];                              int min = list[0];
    for (int i = 1; i < list.length; i++) {         for (int i = 1; i < list.length; i++) {
        if (list[i] < min) {                            min = Math.min(min, list[i]);
            min = list[i];                          }
        }                                           return min;
    }                                           }
    return min;
}
```

5.

```
public static boolean isSorted(double[] list) {
    for (int i = 0; i < list.length - 1; i++) {
        if (list[i] > list[i + 1]) {
            return false;
        }
    }
    return true;
}
```

6.

```
public static int[] countLastDigits(int[] list) {
    int[] count = new int[10];
    for (int i = 0; i < list.length; i++) {
        int digit = list[i] % 10;
        count[digit]++;
    }
    return count;
}
```

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7. (two solutions shown)

```java
public static int[] vowelCount(String text) {
    int[] counts = new int[5];
    for (int i = 0; i < text.length(); i++) {
        char c = text.charAt(i);
        if (c == 'a') {
            counts[0]++;
        } else if (c == 'e') {
            counts[1]++;
        } else if (c == 'i') {
            counts[2]++;
        } else if (c == 'o') {
            counts[3]++;
        } else if (c == 'u') {
            counts[4]++;
        }
    }
    return counts;
}

public static int[] vowelCount(String text) {
    int[] counts = new int[5];
    for (int i = 0; i < text.length(); i++) {
        int index = "aeiou".indexOf(text.charAt(i));
        if (index >= 0) {
            counts[index]++;
        }
    }
    return counts;
}
```

8. (two solutions shown)

```java
public static int[] sum2(int[] list) {
    int[] result = new int[2];
    for (int i = 0; i < list.length; i++) {
        result[i % 2] += list[i];
    }
    return result;
}
```

```java
public static int[] sum2(int[] list) {
    int[] result = new int[2];
    for (int i = 0; i < list.length; i++) {
        if (i % 2 == 0) {
            result[0] += list[i];
        } else {
            result[1] += list[i];
        }
    }
    return result;
}
```

9.

```java
public static int[] sum5(int[] list) {
    int[] result = new int[5];
    for (int i = 0; i < list.length; i++) {
        result[i % 5] += list[i];
    }
    return result;
}
```

10.

```java
public static void rotateRight(int[] list) {
    int last = list[list.length - 1];
    for (int j = list.length - 1; j > 0; j--) {
        list[j] = list[j - 1];
    }
    list[0] = last;
}
```

11.

```
public static int[] stretch(int[] list) {
    int[] result = new int[2 * list.length];
    for (int i = 0; i < list.length; i++) {
        result[2 * i] = list[i] / 2 + list[i] % 2;
        result[2 * i + 1] = list[i] / 2;
    }
    return result;
}
```