Array and ArrayList Exercises

1. Given
   
   ```
   int[] list = {2, 4, 6, 8, 10, 12, 14, 16, 18};
   ```

   Write the code to remove the middle value from `list` and place it at the end.

2. Given
   
   ```
   int[] list = {2, 4, 6, 8, 10, 12, 14, 16, 18};
   ```

   Write the code to insert a copy of the last value in `list` into the middle of `list`.

3. Given
   
   ```
   ArrayList<Integer> aList = new ArrayList<Integer>();
   ```

   Assume `aList` has been populated with a list of integers. Write the code to remove the middle value in `aList` and place it at the end of the list.

4. Given
   
   ```
   ArrayList<Integer> aList = new ArrayList<Integer>();
   ```

   Assume `aList` has been populated with a list of integers. Write the code to remove the last value in `aList` and place it in the middle of the list.

Extra credit:

Here is an e-mail I received from a high school computer science teacher. How would you answer it?

```
Could someone help me explain this problem...

Why does:
   String letters[] = {"A", "B", "C"};
   ArrayList<String> list = new ArrayList<String>(3);

   int i;
   for (i = 2; i >= 0; i--)
       list.set(i, letters[i]);

   for (i = 0; i < list.size(); i++)
       System.out.print(list.get(i));
```

Produce an:
IndexOutOfBoundsException

Thank you,

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