

```
import java.util.ArrayList;
import java.util.Random;

public class AListApp {

    public static void main(String[] args) {

        // Part 1 - create array
        Random generator = new Random();
        System.out.println("\n*** Part 1 (create random array) ***");
        ArrayList<Integer> aP1 = new ArrayList<Integer>();
        for (int i = 0; i < 25; i++) { // fill array a1 with 25 each random
            // (0-25) elements
            aP1.add(i, generator.nextInt(25));
            if (i > aP1.size() - 2) {
                System.out.print(aP1.get(i) + ", ");
            } else {
                System.out.print(aP1.get(i));
            }
        }
        System.out.println("\naP1 size = " + aP1.size());
        ArrayList<Integer> aP2 = new ArrayList<Integer>(aP1); // COPY FOR PART 2
        ArrayList<Integer> aP3 = new ArrayList<Integer>(aP1); // COPY FOR PART 3
        ArrayList<Integer> aP4 = new ArrayList<Integer>(aP1); // COPY FOR PART 4

        // Part 2 - add 5 additional primes
        System.out.println("\n*** Part 2 (add 5 primes) ***");
        System.out.println("aP2 size before addition = " + aP2.size());
        aP2.add(2);
        aP2.add(3);
        aP2.add(5);
        aP2.add(7);
        aP2.add(11);
        for (int i = 0; i < aP2.size(); i++) {
            if (i < aP2.size() - 1) {
                System.out.print(aP2.get(i) + ", ");
            } else {
                System.out.print(aP2.get(i));
            }
        }
        System.out.println("\naP2 size after addition = " + aP2.size());

        // Part 3 - Remove 1st and last elements
        System.out.println("\n*** Part 3 (Remove 1st and last elements) ***");
        System.out.println("aP3 size before removal = " + aP3.size());
        aP3.remove(0);
        aP3.remove(aP3.size() - 1);
        for (int i = 0; i < aP3.size(); i++) {
            if (i < aP2.size() - 1) {
                System.out.print(aP3.get(i) + ", ");
            } else {
                System.out.print(aP3.get(i));
            }
        }
        System.out.println("\naP3 size after removal= " + aP3.size());
    }
}
```

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// Part 4 - Reverse order of elements
System.out.println("\n*** Part 4 (Reversal of elements) ***");
System.out.println("Array ap4 before reversal");
for (int i = 0; i < aP4.size(); i++) {
    if (i < aP2.size() - 1) {
        System.out.print(aP4.get(i) + ", ");
    } else {
        System.out.print(aP4.get(i));
    }
}
System.out.println("\naP4 size before reversal = " + aP4.size());
for (int i = 0; i < aP4.size() / 2; i++) {
    int temp = aP4.get(i);
    aP4.set(i, aP4.get(aP4.size() - 1 - i));
    aP4.set(aP4.size() - 1 - i, temp);
}
System.out.println("Array ap4 after reversal");
for (int i = 0; i < aP4.size(); i++) {
    if (i < aP2.size() - 1) {
        System.out.print(aP4.get(i) + ", ");
    } else {
        System.out.print(aP4.get(i));
    }
}
System.out.println("\naP4 After reversal of elements = " + aP4.size());
}
}
```

## OUTPUT

```
*** Part 1 (create random array) ***
19, 24, 3, 0, 15, 10, 10, 14, 17, 1, 19, 13, 4, 1, 14, 22, 1, 11, 19, 12, 10, 4, 12, 21, 13,
aP1 size = 25

*** Part 2 (add 5 primes) ***
aP2 size before addition = 25
19, 24, 3, 0, 15, 10, 10, 14, 17, 1, 19, 13, 4, 1, 14, 22, 1, 11, 19, 12, 10, 4, 12, 21, 13,
2, 3, 5, 7, 11
aP2 size after addition = 30

*** Part 3 (Remove 1st and last elements) ***
aP3 size before removal = 25
24, 3, 0, 15, 10, 10, 14, 17, 1, 19, 13, 4, 1, 14, 22, 1, 11, 19, 12, 10, 4, 12, 21,
aP3 size after removal= 23

*** Part 4 (Reversal of elements) ***
Array ap4 before reversal
19, 24, 3, 0, 15, 10, 10, 14, 17, 1, 19, 13, 4, 1, 14, 22, 1, 11, 19, 12, 10, 4, 12, 21, 13,
aP4 size before reversal = 25
Array ap4 after reversal
13, 21, 12, 4, 10, 12, 19, 11, 1, 22, 14, 1, 4, 13, 19, 1, 17, 14, 10, 10, 15, 0, 3, 24, 19,
aP4 After reversal of elements = 25
```