1. Understanding code
Draw a representation of what the computer's memory and screen (if relevant) looks like at the end of each of these programs:

```java
public class Array-Declarations {
    public static void main(String [] args) {
        int [] w;
        int [] x = null;
        int [] y = new int[3];
        int [] z = {1, 3, 5, 7, -14};
    }
}

public class Array-Assignment {
    public static void main(String [] args) {
        int [] x = new int[3];
        int [] y = {3, 5, 9, 2};
        x[2] = y[3];
        x[0]++;
        y[1] += y[2] * y[0];
        int [] z = x;
        x = y;
    }
}

public class Array-Length {
    public static void main(String [] args) {
        int [] x = new int[4];
        int [] y = {};
        int [] z = {0};
        System.out.println("x has " + x.length + " elements");
        System.out.println("y has " + y.length + " elements");
        System.out.println("z has " + z.length + " elements");
    }
}

public class Array-With-Loop1 {
    public static void main(String [] args) {
        int [] x = {-4, 9, 8, 2, -5, 7, 1};
        for(int i=1; i<x.length; i++) {
            x[i] = x[i-1];
        }
    }
}
```
public class Array-With-Loop2 {
    public static void main(String [] args) {
        int [] x = {-4, 9, 8, 2, -5, 7, 1};
        for(int i=1; i<x.length; i++) {
            x[i] += x[i-1]; // notice: += instead of =
        }
    }
}

public class Array-With-Loop3 {
    public static void main(String [] args) {
        int [] x = {-4, 9, 8, 2, -5, 7, 1};
        int val = 0;
        for(int i=0; i<x.length; i++) {
            val = val + x[i];
        }
    }
}

2. Writing Java Programs with Arrays
   a. Write a program that reads in 10 ints from the keyboard, and stores them all in an array.
   b. Write a program that reads in 10 words from the keyboard, and stores them in an array.
   c. **Write a program that reads in 10 temperature values (as doubles) for 10 days of weather, computes the average temperature, and displays the number of days that were hotter than the average. Hint: use two accumulate loops, one to compute the sum of the array of temperatures, and one to compute the number of days above average.