1. Write a statement that declares a two-dimensional integer array named `arr` that has 25 rows and 10 columns.

   1. `int [][] arr = new int[25][10];`

2. Write a statement that declares a three-dimensional integer array named `tempAndHumidity` that can hold data for the temperature and humidity for every day and every hour for a single year.

   **Solution:**
   
   ```java
   int [][][] tempAndHumidity = new int[365][24][2];
   
   The first dimension is for each day of the year, the second is for each hour in the day, and the third is for each type of value you can hold for a given day and hour. Since we want the temperature and humidity for each day and hour, we need 2 elements in the last dimension. **Note:** If we only wanted the temperature for each day and hour then we wouldn’t need three-dimensions since we could store the temperature in the second dimension.
   ```

3. (a) Declare a method named `foo` that takes a one-dimensional integer array with the name `arr` as input and also has a return type of `void`. The method should print out the last element of the array.

   **Solution:**
   
   ```java
   public static void foo(int [] arr)
   {
       System.out.println(arr[arr.length - 1]);
   }
   
   We can use the `length` property of an array to tell you how big the array is, so we say `arr.length - 1` to give us the last element since an array’s index starts at 0.
   ```

(b) Declare an integer array of 10 elements and invoke the `foo` method.

   (b) `int [] arr = new int[10];`

   (b) `foo(arr);`
4. What is the output of the code below:

```java
int [] a = {1, 3, 4, 5};
int [] b = {2, 4};
b = a;
a[1] = 7;
System.out.println(b[1]);
```

**Solution:** The answer is 7. Arrays are reference types, so when we make the assignment `b = a`, we are saying that `b` really points to the same address location as `a`. **Note:** Even if we change the value of an index in `b`, the change will also be reflected in `a`, so it works both ways since we are really changing the value in an address. If we did the following:

```java
b[0] = 9;
System.out.println(a[0]);
```

The answer would be 9.