Name: (Key) 12/2/21

1. You are given code that creates an integer array "scores" and fills it with values. Write code to find and print the average (as a double) of all of the elements.

```
int[] scores = /* initialized with #s */;
int sum = 0;
for (int n: scores)
    sum += n;
System.out.println( 1.0*sum/scores.length );
```

2. Given the following code, write an enhanced for loop that prints the first character of each String in the array on a single line with no spaces between letters. For example, if words contained {"How","other","worldly","dogs","yelp"} the output would be "Howdy"

```
String[] words = /* initialized with Strings */;
for (String w: words)
    System.out.print (w.substring(0,1));
System.out.println();
```

3. Write one line of code to create a String array containing 25 elements. Do not initialize the elements.

```
String[] words = new String[25];    ← after this call each element will be null
```

4. Write one line of code to create an int array containing the values 2, 0, 2, and 1 in that order.

```
int[] nums = { 2,0,2,1 };
```

5. Write one line of code to create a boolean array containing true, true, false, true in that order.

```
boolean[] vals = { true, true, false, true };
```

6. Write code to create a Frog array containing 7 instantiated Frog objects.

```
Frog[] pond = new Frog[7];    ← this creates the array, each element is null, though
for(int f=0; f< pond.length; f++)
{
    pond[f] = new Frog();
}
```

This line stores a new Frog in each slot.

7. Review the program below. It is meant to process an array of names and report the shortest and longest names found as well as how many names were processed. Your task is to fill in the missing code to find the longest and shortest names in the roster and then print the results. See the sample output for what it should look like. You do NOT need to create a Scanner; you are not asking the user for anything; just process the data that you receive in the roster String array. The array could be any non-zero length; do not assume a specific length.

```java
public class StringsWithArrays{

  public static void main(String[] args){

    String[] roster = /* array is initialized with valid data */ ;

    //Write your code below this line
    String shortest = roster[0];
    String longest = roster[0];
    for(String name : roster)
    {
        if(name.length() > longest.length())
            longest = name;
        if(name.length() < shortest.length())
            shortest = name;
    }
    System.out.println("Processed:    " + roster.length + " names ");
    System.out.println("Shortest name: " + shortest);
    System.out.println("Longest name: " + longest);


    }
}
```

Sample output:

```
Processed:      852 names
Shortest name:  Sid
Longest name:   Alexandra
```