Name(s): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Consider the code provided to do the following activities.

**import** java.util.Arrays;  
**import** java.util.Scanner;  
  
**public class** ArrayInts {  
 **private** Scanner **in**;  
 **private int** [] **array**;  
  
 **public** ArrayInts(**int** length){  
 **in** = **new** Scanner(System.***in***);  
 **array** = **new int**[length];  
 }  
 **public void** readArray(){  
 **for**(**int** i = 0; i < **array**.**length**; i++){  
 System.***out***.println(**"Enter and integer number: "**);  
 **int** value = **in**.nextInt();  
 **array**[i] = value;  
 }  
 }  
  
 **public** String toString(){  
 **return** Arrays.*toString*(**array**);  
 }  
}

**public class** AppsArrayInt {  
 **public static void** main(String args[]){  
 ArrayInts obj = **new** ArrayInts(8);  
 obj.readArray();  
 System.***out***.println(obj);  
 }  
}

1. Regarding class ArrayInts:
   1. Does it store any value? If yes, what are their types? Are they instance or class variables?
   2. Explain what each method does.
2. Regarding class AppArrayInts:
   1. Does it store any value? If yes, what are their types? Are they instance or class variables?
   2. Explain what each method does.
3. Write a method that invert the elements in the array. What class should you implement this method?
4. Write a method that returns a String containing the maximum value in the array and its position. What class should you implement this method?
5. Call the methods you wrote in the AppArrayInts class.

Considering the class Shape provided below:

**public class** Shape {  
 **protected int sides**;  
 **private** String **color**;  
  
 **public** Shape(**int** sides, String color){  
 **this**.**sides** = sides;  
 **this**.**color** = color;  
 }  
 **public int** getSides(){  
 **return sides**;  
 }  
 **public** String getColor(){  
 **return color**;  
 }  
 **public** String toString(){  
 **return "Sides: "** + **sides** + **" Color: "** + **color**;  
 }  
}

1. Write a class ArrayShape that manipulate an array of Shape type. You should be able to create the array of Shape, include objects in the array and print all the elements that you have in the array. Use the the ArrayInts class as a template for you to follow.