CSCI-101 Programming I
Exam 1

Instructions

Please follow the rules below as you work through this exam.

- Please leave all notebooks and electronics (including cell phones and smart watches) at the side of the room.
- This is a closed book/closed notes exam.
- Do not spend too much time on any one problem. You have 50 minutes to complete this exam.
- Partial credit is awarded.
- Please write legibly. If I cannot read your answers, I cannot give you credit.
- Please write your answers in the order specified. If you need additional paper, please raise your hand to ask your instructor for additional paper.
- Your code must be written to behave as specified.
- You must properly use all identifiers that are explicitly stated.
- Please use proper and consistent coding conventions (indentation, naming identifiers, etc.).
- Please stay in your seat until you are ready to hand in your exam. You may leave when you are finished.
- Once you leave the testing room you cannot return until the exam is over. If you need to use the restroom, please use it now.

Assume the code you are writing for this exam is placed in a file named Exam1.java. Write a *complete program* that will run when compiled and that satisfies the Program Requirements shown below.

1. Write a statement that creates a Scanner that can be used to read data from the keyboard.

2. Ask the user to enter 2 integers and read them into variables named **num1** and **num2**.

3. Print to the screen "**equal**" if the values in **num1** and **num2** are equal; otherwise print "**not equal**".

4. Print to the screen "**greater than 5 and odd**" if the value in **num1** is greater than 5 and odd.

5. Print to the screen "**7 or 11**" if **num2** holds the value 7 or holds the value 11.

6. Use a **while-loop** to print to the screen, on a single line with spaces between them, the numbers between 3 and 57 (inclusively).

7. Declare an array named **arr1** that can hold 20 integers.

8. Ask the user to enter 20 integers. Read the values from the keyboard and store them in the array named **arr1**.

9. Declare a variable named **first** and set it equal to the first element in **arr1**.

10. Declare a variable named **second** and set it equal to the second element in **arr1**.

11. Count how many integers in **arr1** are *odd* and print the count to the screen.

12. Compute the sum of the integers in **arr1** and print the sum to the screen.

13. Count how many integers in **arr1** are divisible by both 5 and 7 and print the count to the screen.

14. Declare an array named **arr2** that can hold 20 integers.

15. Copy the values in **arr1** into **arr2**.

```
import java.util.Scanner;

class Exam1 {
	public static void main(String[] args) {

		Scanner kb = new Scanner(System.in);

		System.out.println("Please enter 2 integers");
		int num1 = kb.nextInt();
		int num2 = kb.nextInt();

		if (num1 == num2) {
			System.out.println("equal");
		}
		else {
			System.out.println("not equal");
		}

		if ((num1 > 5) && (num1 % 2 == 1)) {
			System.out.println("greater than 5 and odd");
		}

		if((num2 == 7) || (num2 == 11)) {
			System.out.println("7 or 11");
		}

		int j = 3;
		while(j <= 57) {
			System.out.print(j + " ");
			j++;
		}
		System.out.println();

		int[] arr1 = new int[20];

		System.out.println("Please enter 20 integers");
		for(int i = 0; i < arr1.length; i++) {
			arr1[i] = kb.nextInt();
		}

		int first = arr1[0];

		int second = arr1[1];

		int count = 0;
		for(int i = 0; i < arr1.length; i++) {
			if (arr1[i] % 2 == 1) {
				count++;
			}
		}
		System.out.println("count: " + count);

		int sum = 0;
		for(int i = 0; i < arr1.length; i++) {
			sum += arr1[i];
		}
		System.out.println("sum: " + sum);

		count = 0;
		for(int i = 0; i < arr1.length; i++) {
			if ((arr1[i] % 5 == 0) && (arr1[i] % 7 == 0)) {
				count++;
			}
		}
		System.out.println("count: " + count);

		int[] arr2 = new int[20];

		for(int i = 0; i < arr2.length; i++) {
			arr2[i] = arr1[i];
		}
	}
}
```