

Quiz #4
SOLUTIONS

Instructions:

1. Do not turn this page until told to do so.
2. This quiz is *closed book* and *closed notes*.
3. *Write your name on every page.*
4. You must give your answer to a question on the *same sheet of paper that the problem appears on*. If you run out of space on the front of the page, you may continue to the back of that page only. If you put your answer on a different page, *you will not receive credit for that problem!*
5. You do not need to do any error checking of input values, *unless the problem specifically asks you to do so!*
6. If you are caught looking at other papers or communicating with other students in any way, you will receive an **F** for this quiz.

Question 1 (20 pts) Tracing.

What is the output of the following Java program?

```
public class Q5Tracing{
    public static void main(String[] args) {
        int hat = 5, gloves = 8, boots = 12;
        while (hat < gloves){
            System.out.print(boots + "-");
            boots--;
            hat++;
        }

        System.out.println();
        System.out.println("boots: " + boots);
        System.out.println("hat: " + hat);

        do{
            System.out.print(boots + "-");
            boots--;
            gloves++;
        }while (boots > hat);

        System.out.println();
        System.out.println("boots: " + boots);
        System.out.println("gloves: " + gloves);

        for (gloves = 1; gloves < hat; gloves++){
            if (gloves % 2 == 0)
                System.out.println("gloves: " + gloves);
            else
                boots--;
        }

        String phrase = "HELLO WORLD";
        for (int i = 8; i > 0; i--){
            if (phrase.charAt(i) == 'O')
                System.out.print("-");
            else if (phrase.charAt(i) == ' ')
                System.out.print("@");
            else
                System.out.print(phrase.charAt(i));
        }
    }
} // end of class
```

Output

```
12-11-10-
boots: 9
hat: 8
9-
boots: 8
gloves: 9
gloves: 2
gloves: 4
gloves: 6
R-W@-LLE
```

Question 2 (20 pts) Coding.

- Write the main method of a program that asks the user to enter an even integer.
- The program should continue to ask for an even integer until an even integer is entered.
- Assume that all input is positive.
- The program then prints all of the even integers starting with 0 through the number that the user has provided
- The output must be formatted exactly as the samples below.
- Sample Output:

Enter an even int: 1 Enter an even int: 3 Enter an even int: 10 0 2 4 6 8 10	Enter an even int: 18 0 2 4 6 8 10 12 14 16 18	Enter an even int: 5 Enter an even int: 2 0 2
---	---	---

```
public static void main(String[] args){
    Scanner kbd = new Scanner(System.in);
    int num = 1;
    while(num % 2 == 1){
        System.out.print("Enter an even int: ");
        num = kbd.nextInt();
    }

    for(int i = 0; i <= num; i++){
        if(i % 2 == 0)
            System.out.print(i);

        if(i < num)
            System.out.print(" ");
    }
}
```