

Quiz #3
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 static void main(String[] args){
    int a = 20, b = 27;
    int c = 81, d = 81, e = 9;

    if (a > 30)
        System.out.println("ONE");
    else if (a > 10)
        System.out.println("TWO");
    else
        System.out.println("THREE");
    if (a < 10 && b > 30)
        System.out.println("FOUR");
    if (a > 10 && b > 30)
        System.out.print("FIVE");
    if (a < 10 && b < 30)
        System.out.println("SIX");
    if (a > 10 && b < 30)
        System.out.println("SEVEN");
    if (a < 10 || b > 30)
        System.out.println("EIGHT");
    if (a > 10 || b > 30)
        System.out.print("NINE");
    if (a < 10 || b < 30)
        System.out.println("TEN");
    if (a > 10 || b < 30)
        System.out.println("ELEVEN");
    if (c == d || c == e || d == e)
        System.out.println("TWELVE");
    else if (c == d && d == e && c == e)
        System.out.println("THIRTEEN");
    else if (c != d && c != e && d != e)
        System.out.println("FOURTEEN");

    System.out.println("FIFTEEN");

    if (d < a)
        System.out.println("SIXTEEN");
    else{
        if (b > e)
            System.out.println("SEVENTEEN");
            System.out.println("EIGHTEEN");
            if (a != b)
                System.out.println("NINETEEN");
        }
    } // end of main
```

Output

**TWO
SEVEN
NINETEN
ELEVEN
TWELVE
FIFTEEN
SEVENTEEN
EIGHTEEN
NINETEEN**

Question 2 (20 pts) Coding.

- Write a program that asks the user to enter an integer.
- If the number is not even, then the program should print out that it is not even.
- Do the same if the number is not negative.
- If it is even and negative, then it should print out that it is even and negative.
- The output must be formatted exactly like below.
- Your program should work for any input entered. Four sample runs have been provided.
- Sample Output:

Enter an integer: 2
2 is not negative

Enter an integer: -1
-1 is not even

Enter an integer: -4
-4 is even and negative

Enter an integer: 3
3 is not even
3 is not negative

```
import java.util.Scanner;

public class EvenOdd
{
    public static void main(String[] args)
    {
        Scanner kbd = new Scanner(System.in);

        System.out.print("Enter and integer: ");
        int num = kbd.nextInt();

        if(num > 0){
            if(num % 2 == 1){
                System.out.println(num + " is not even");
            }

            System.out.println(num + " is not negative");
        }
        else{
            if(num % 2 == 1){
                System.out.println(num + " is not even");
            }
            else{
                System.out.println(num
                    + " is even and negative");
            }
        }
    }
}
```