CSE110 Review Questions (Solutions)

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1 Decision - Control Structures

Question 1 What is the output of the following code?

```java
int depth = 8;
if (depth >= 8) {
        System.out.print("Danger: ");
        System.out.print("deep water. ");
}
System.out.println("No swimming allowed.");
```

Answer: Danger: deep water. No swimming allowed.

Question 2 What is the output of the following code?

```java
int depth = 12;
int temp = 42;
System.out.print("The water is: ");
if (depth >= 8)
        System.out.print("deep ");
if (temp <= 50 && depth <= 12)
        System.out.print("cold ");
System.out.println(" wet.");
```

Answer: The water is deep cold wet.

Question 3 Consider the following code:

```java
String str1 = "Java is fun";
String str2 = "Java is fun";
if ( /* */ )
        System.out.println("String1 and String2 are the same");
else
        System.out.println("String1 and String2 are different");
```

Fill in the missing condition to check if str1 and str2 are the same.
Answer: str1.equals(str2)

Question 4 If k holds a value of the type int, then the value of the expression:

```java
k <= 10 || k > 10
```

a) must be true
b) must be false
c) could be either true or false
d) is a value of type int
Answer: A

Question 5 Write a program that asks for 3 integers and prints the median value of the three integers.
Answer:

```java
import java.util.Scanner;
public class ThreeIntegers {
        public static void main(String[] args) {
                Scanner scan = new Scanner(System.in);
                int num1 = scan.nextInt();
                int num2 = scan.nextInt();
                int num3 = scan.nextInt();
                int result = 0;
                if (num1 > num2 && num1 < num3)
                        result = num1;
                else if (num1 < num2 && num1 > num3)
                        result = num1;
                else if (num2 > num1 && num2 < num3)
                        result = num2;
                else if (num2 < num1 && num2 > num3)
                        result = num2;
                else
                        result = num3;

                System.out.println("The median of " + num1 + ", " + num2 +
                        ", and " + num3 + " is " + result);
        }
}
```

Question 6 Evaluate the following expressions, assuming that x = -2 and y = 3.

```
a) x <= y
b) (x < 0) || (y < 0)
c) (x <= y) && (x < 0)
d) ((x + y) > 0) && !(y > 0)
```

Answers:
a) true
b) true
c) true
d) false