

COMP 248 S2005 Final Solution

Multiple Choice Questions

1. a)
2. a)
3. a)
4. e)
5. d)
6. c)
7. e)
8. b)
9. b)
10. a)

Short Answer Questions

11. (A) b2 and b1 have the same value

(B)

```
if (b1 == b2 && b2 == a1 && a1 == a2)
    System.out.println( "All variables have the same value");
else if (b1 == b2)
    System.out.println( "b2 and b1 have the same value");
else if (a1 == a2)
    System.out.println("a1 and a2 have the same value");
else
    System.out.println("All variables are different");
```
12.

```
Scanner kb = new Scanner(System.in);
System.out.print("Please enter your name: ");
String name = kb.nextLine();
String firstName = name.split(" ")[0];
String lastName = name.split(" ")[1];

System.out.println("Your abbreviated name is: " + firstName.charAt(0) + ". " +
lastName);
```

13.

```
int[] alternatingSum = {1, 4, 9, 16, 9, 7, 4, 9, 11};
int sum = 0;

for (int i = 0; i < alternatingSum.length; i++) {
    if (i % 2 == 0) {
        sum += alternatingSum[i];
    }
    else {
        sum -= alternatingSum[i];
    }
}
```
14.

```
public static void reverseSame(int num1, int num2) {
    int reversedNum = 0;

    while (num1 != 0) {
        int lastDigit = num1 % 10;
        reversedNum = reversedNum * 10 + lastDigit;
        num1 = num1 / 10;
    }

    return num2 == reversedNum;
}
```
15. *SEE TUTORIAL 9 - QUESTION 10 SOLUTION*
16.

```
Pair: 0, 0
Pair: 0, 5
Pair: 2, 3
Pair: 15, 3
0
Pair: 20, 3
Pair: 20, 3
here 1
```

17. Scanner keyboard = new Scanner(System.in);
 System.out.print("Please enter the value of n: ");
 int n = keyboard.nextInt();

```
// Draw the upper triangle
for (int i = n; i >= 1; i -= 2) {
    // Loop for all the blank spaces in front
    for (int j = (n - i); j >= 1; j -= 2) {
        System.out.print(" ");
    }

    // Loop for all the stars
    for (int j = i; j >= 1; j--) {
        System.out.print("*");
    }

    // Go to next row
    System.out.println();
}
```

```
// Draw the lower triangle
for (int i = 4 - (n % 2); i <= n; i += 2) {
    // Loop for all the blank spaces in front
    for (int j = 1; j <= (n - i) / 2; j++) {
        System.out.print(" ");
    }

    // Loop for all the stars
    for (int j = 1; j <= i; j++) {
        System.out.print("*");
    }

    // Go to next row
    System.out.println();
}
```