PROMINEO TECH

Intro to Java Week 2 Coding Assignment

Points possible: 70

Category	Criteria	% of Grade
Functionality	Does the code work?	25
Organization	Is the code clean and organized? Proper use of white space, syntax, and consistency are utilized. Names and comments are concise and clear.	25
Creativity	Student solved the problems presented in the assignment using creativity and out of the box thinking.	25
Completeness	All requirements of the assignment are complete.	25

Instructions: In Eclipse, or an IDE of your choice, write the code that accomplishes the objectives listed below. Ensure that the code compiles and runs as directed. Take screenshots of the code and of the running program (make sure to get screenshots of all required functionality) and paste them in this document where instructed below. Create a new repository on GitHub for this week's assignments and push this document, with your Java project code, to the repository. Add the URL for this week's repository to this document where instructed and submit this document to your instructor when complete.

Coding Steps:

1. What do each of the following Boolean expressions evaluate to?

Boolean Expression	Answer
true && false	FALSE
true || false	TRUE
false && false	FALSE

true && (false || true)	TRUE
false || (true && false)	FALSE
false || 1 < 5	TRUE
5 >= 4 && 1 > 3	FALSE
10 < 4 || 1 > 4	FALSE
12 >= 2 && 1 < 24	TRUE
"Hello".charAt(0) == 'h'	FALSE

2. In Eclipse, create the following Boolean variables and choose what values they hold:

   a. isHotOutside

   b. isWeekday

   c. hasMoneyInPocket

3. Create the following variables (not boolean type, choose the best data type for the variable):

   a. costOfMilk

   b. moneyInWallet

   c. thirstLevel (how thirsty you are on a scale of 1-10)

4. Using the variables you created above and Boolean operators, create variables for the following scenarios:

   a. shouldByIcecream – this should be true if it is hot outside and there is money in your pocket

   b. willGoSwimming – this should be true if it is hot outside and it is not a weekday

   c. isAGoodDay – this should be true if it is hot outside, there is money in your pocket, and it is not a weekday

   d. willBuyMilk – this should be true if it is hot outside, and thirstLevel is greater than or equal to 3, and moneyInWallet is greater than or equal to 2 times the cost of milk.

Example: If I had the variables isWeekday and isSummer and I was going to create a variable isSchoolDay, I would do something like the following:

boolean isSchoolDay = isWeekday && !isSummer;

5. Create a new class called Loops. In the main method of this class, create the following loops with any variables you feel are needed:

   a. A while loop that prints all even numbers from 0 to 100

   b. A while loop that prints every 3rd number going backwards from 100 until we reach 0

   c. A for loop that prints every number from 0 to 100, but if the number is divisible by 3, it prints "Hello" instead of the number, and if the number is divisible by 5, it prints "World" instead of the number, and if it is divisible by both 3 and 5, it prints "HelloWorld" instead of the number.

Screenshots of Code:

```java
1  public class Week2 {
2
3      public static void main(String[] args) {
4
5          //1.
6
7              System.out.println(true && false);
8              System.out.println(true || false);
9              System.out.println(false && false);
10             System.out.println(true && (false || true));
11             System.out.println(false || (true && false));
12             System.out.println(false || 1 < 5);
13             System.out.println(5 >= 4 && 1 > 3);
14             System.out.println(10 < 4 || 1 > 4);
15             System.out.println(12 >= 2 && 1 < 24);
16             System.out.println("Hello".charAt(0) == 'h');
17
18         //2.
19             boolean isHotOutside = true;
20
21             boolean isWeekDay = false;
22
23             boolean hasMoneyInPocket = true;
24
25         //3.
26             double costOfMilk = 2.50;
27
28             double moneyInWallet = 10.84;
29
30             char thirstLevel = '4';
31
32         //4A.
33             boolean shouldByIcecream = isHotOutside && hasMoneyInPocket;
34
35             System.out.println(shouldByIcecream);
```

```java
//4B.

    boolean willGoSwimming = isHotOutside && !isWeekDay;

    System.out.println(willGoSwimming);

//4C.

    boolean isAGoodDay = isHotOutside && hasMoneyInPocket && !isWeekDay;

    System.out.println(isAGoodDay);

//4D.

    boolean willBuyMilk = isHotOutside && thirstLevel >= 3 && moneyInWallet >= 2 * costOfMilk;

    System.out.println(willBuyMilk);

    }
}
```

```java
public class Loops {

    public static void main(String[] args) {
        // TODO Auto-generated method stub

//          //5A.
            int i = 0;

            while (i < 51) {
                System.out.println(i * 2);
                i++;
            }

        //5B.
            int x = 100;

            while (x >= 0) {
                System.out.println(x);
                x-= 3;
            }

        //5C.
            for (int y = 1 ; y <= 100; y+= 2) {
                System.out.println(y);
            }

        //5D.
            for (int z = 0; z <= 100; z++) {

                if (z % 3 == 0 && z % 5 == 0) {
                    System.out.println("Hello World");
                } else if (z % 3 == 0) {
                    System.out.println("Hello");
                } else if (z % 5 == 0) {
                    System.out.println("World");
                } else {
                    System.out.println(z);
```

```
38                    }
39
40
41            }
42
43
44
45        }
46
47  }
48
```

```
false
true
false
true
false
true
false
false
true
false
true
true
true
true
```

Screenshots of Running Application:

```
0     32     64     96     64     19     19
2     34     66     98     61     16     21
4     36     68     100    58     13     23
6     38     70     100    55     10     25
8     40     72     97     52     7      27
10    42     74     94     49     4      29
12    44     76     91     46     1      31
14    46     78     88     43     1      33
16    48     80     85     40     3      35
18    50     82     82     37     5      37
20    52     84     79     34     7      39
22    54     86     76     31     9      41
24    56     88     73     28     11     43
26    58     90     70     25     13     45
28    60     92     67     22     15     47
30    62     94            19     17     49
```

```
51        83        World       World      Hello
53        85        Hello       Hello      37
55        87        7           22         38
57        89        8           23         Hello
59        91        Hello       Hello      World
61        93        World       World      41
63        95        11          26         Hello
65        97        Hello       Hello      43
67        99        13          28         44
69        Hello World  14        29         Hello World
71        1         Hello World  Hello World  46
73        2         16          31         47
75        Hello     17          32         Hello
77        4         Hello       Hello      49
79                  19          34         World
81                              World
```

```
World     Hello         Hello          88
Hello     58            73             89
52        59            74             Hello World
53        Hello World   Hello World    91
Hello     61            76             92
World     62            77             Hello
56        Hello         Hello          94
          64            79             World
          World         World          Hello
          Hello         Hello          97
          67            82             98
          68            83             Hello
          Hello         Hello          World
          World         World
          71            86
                        Hello
```

URL to GitHub Repository: https://github.com/DesmondYo/Week2