

Selections

CMPT220L

Lab 3

Complete the following Lab. You will upload ALL files including this marked up PDF document. Be sure to include the source code for the programs as well.

1 Solve the mystery

Consider the following Java code. Edit the PDF and fill in the boxes with the output produced by each of the method calls.

```
public static void mystery(int n) {  
    System.out.print(n + " ");  
    if (n > 10) {  
        n = n / 2;  
    } else {  
        n = n + 7;  
    }  
    if (n * 2 < 25) {  
        n = n + 10;  
    }  
    System.out.println(n);  
}
```

```
mystery(40); Result: 40 20  
mystery(8);  Result: 8 15  
mystery(0);  Result: 0 17  
mystery(12); Result: 12 16  
mystery(20); Result: 20 20
```

2 True or False

Fill in the boxes with the output that if statement would produce. **True** or **False**.

```
int tooty = 12;  
int fruity = 3;  
int under = 9;  
int dog = 9;  
bat = 1;  
man = 3;
```

```
if (tooty < fruity && under == dog)           // Answer: false
```

```

if( !(under == dog || (bat * 3) == man))    // Answer: false
if( !(man * 3) == dog || fruity < under )    // Answer: true
if( tooty > fruity && fruity < man )          // Answer: false
if( !(tooty > fruit) || !(fruity < man) )    // Answer: true
if( tooty < man && man * fruity == under )    // Answer: false

```

3 Find the errors

The following Java program has 5 errors. Find them and highlight them. Provide an explanation for each one with a single line comment to the right.

```

1  public class IfOops {
2      public static void main(String[] args) {
3          int a = 7;
4          int b = 42;
5
6          if (a < b) {
7              int smaller = a;
8          } else (a == b) {
9              int smaller = b;
10         }
11
12         if {smaller = a}
13             System.out.println("a is the smallest!");
14     }
15 }
16 }

```

undefined variable.

Error	Line No.	Description
1	8	You cannot have the "=" in front of the ">" ✓
2	12	The if statement needs its conditional to be wrapped in parentheses ✓
3	12	The intended conditional is assigning smaller to a, not checking if true or not ✓
4	8	else does not need a conditional ✓
5	7 & 9	smaller is defined twice in if statements, rather than externally like the other variables ✓

4 MeaningOfLife Program

Write a complete program named `MeaningOfLife.java` that will ask the user to enter a number. If the number they entered is 42 give them a correct message, otherwise give them an incorrect message.

Sample output:

```

You entered: 42
Your answer is correct.

```

```

You entered: 75
You do not have the answer to life.

```

5 PersonsAge Program

Write a complete program named `PersonsAge.java` that will ask the user to enter their age. Then output what they are legally allowed to do the following: vote, drive a car, and can legally stay out past 10 p.m.

Sample output:

```
You are 12 years old. You cannot do anything.  
You are 16 you can drive a car and stay out past 10 p.m.
```

6 NumberPractice Program

Write a complete program named `NumberPractice.java` that will ask the user to enter 4 numbers, reads them, then prints the smallest and largest of all the numbers typed in by the user. For example:

```
Number 1: 5  
Number 2: 11  
Number 3: -2  
Number 4: 3  
Smallest = -2  
Largest = 11
```

7 Submission

Submit the followong items to GitHub under Module 03 ← lab:

- If/Else Lab completed PDF document
- MeaningOfLife Java source code file
- PersonsAge Java source code file
- NumberPractice Java source code file