

Philip Pesic

Week 9

March 19 2023

Week 9 Prog 2

Prog 2 - Modify the following code to:

- * Create a Driver Class

- * Create a LCM class.

Find LCM for a number.

The LCM of two integers is the smallest positive integer that is perfectly divisible by both the numbers (without a remainder).

```
package Prog2;

class prog2 {
    public static void main(String[] args) {
        LCM lcmCalc = new LCM(144, 16);
        lcmCalc.getLCM();
        System.out.println("Philip Pesic 3/19/23");
    }
}

package Prog2;

public class LCM {
    private int n1, n2, lcm;

    public LCM(int n1, int n2) {
        this.n1 = n1;
        this.n2 = n2;
    }

    public void getLCM() {
        lcm = (n1 > n2) ? n1 : n2;

        while(true) {
            if( lcm % n1 == 0 && lcm % n2 == 0 ) {
                System.out.printf("The LCM of %d and %d is %d.", n1, n2, lcm);
            }
        }
    }
}
```

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```
        System.out.println("");
        break;
    }
    ++lcm;
}
}
```

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The screenshot shows an IDE with a project named 'Programs'. The 'EXPLORER' sidebar on the left lists several files: 'Prog1', 'GCD.java', 'prog1.java', 'Prog2', 'LCM.java', 'prog2.java', 'Prog3', 'Prog4', 'Prog5', and 'Prog6'. The 'LCM.java' file is selected and its code is displayed in the main editor. The code defines a class 'LCM' with two private integer fields, 'n1' and 'n2', and a public method 'getLCM()'. The method calculates the LCM of 'n1' and 'n2' using a while loop. The loop continues until the LCM is found, which is when both 'lcm % n1 == 0' and 'lcm % n2 == 0'. The LCM is then printed to the console. The 'TERMINAL' panel at the bottom shows the output of the program, which is 'The LCM of 72 and 120 is 360.'.

```
1 package Prog2;
2
3 public class LCM {
4     private int n1, n2, lcm;
5
6     public LCM(int n1, int n2) {
7         this.n1 = n1;
8         this.n2 = n2;
9     }
10
11     public void getLCM() {
12         lcm = (n1 > n2) ? n1 : n2;
13
14         while(true) {
15             if( lcm % n1 == 0 && lcm % n2 == 0 ) {
16                 System.out.printf(format: "The LCM of %d and %d is %d.", n1, n2, lcm);
17                 System.out.println("\n");
18                 break;
19             }
20             ++lcm;
21         }
22     }
23 }
24
25
```

Run: prog2

```
+ programs git:(main) x /usr/bin/env /Library/Java/JavaVirtualMachines/temurin-17.jdk/Contents/Home/bin/java -XX:+ShowCodeDetailsInExceptionMessages -cp /Users/pipipo/Library/Application\ Support/Code/User/workspaceStorage/ca340c185690e404f050aa66531fc580/redhat.java/jdt_ws/Programs_88d11527/bin Prog2.prog2
The LCM of 72 and 120 is 360. Philip Pesic 3/19/23
+ programs git:(main) x cd /Users/pipipo/github/cs284/Week9/programs ; /usr/bin/env /Library/Java/JavaVirtualMachines/temurin-17.jdk/Contents/Home/bin/java -XX:+ShowCodeDetailsInExceptionMessages -cp /Users/pipipo/Library/Application\ Support/Code/User/workspaceStorage/ca340c185690e404f050aa66531fc580/redhat.java/jdt_ws/Programs_88d11527/bin Prog2.prog2
The LCM of 72 and 120 is 360. Philip Pesic 3/19/23
+ programs git:(main) x cd /Users/pipipo/github/cs284/Week9/programs ; /usr/bin/env /Library/Java/JavaVirtualMachines/temurin-17.jdk/Contents/Home/bin/java -XX:+ShowCodeDetailsInExceptionMessages -cp /Users/pipipo/Library/Application\ Support/Code/User/workspaceStorage/ca340c185690e404f050aa66531fc580/redhat.java/jdt_ws/Programs_88d11527/bin Prog2.prog2
The LCM of 144 and 16 is 144. Philip Pesic 3/19/23
+ programs git:(main) x
```

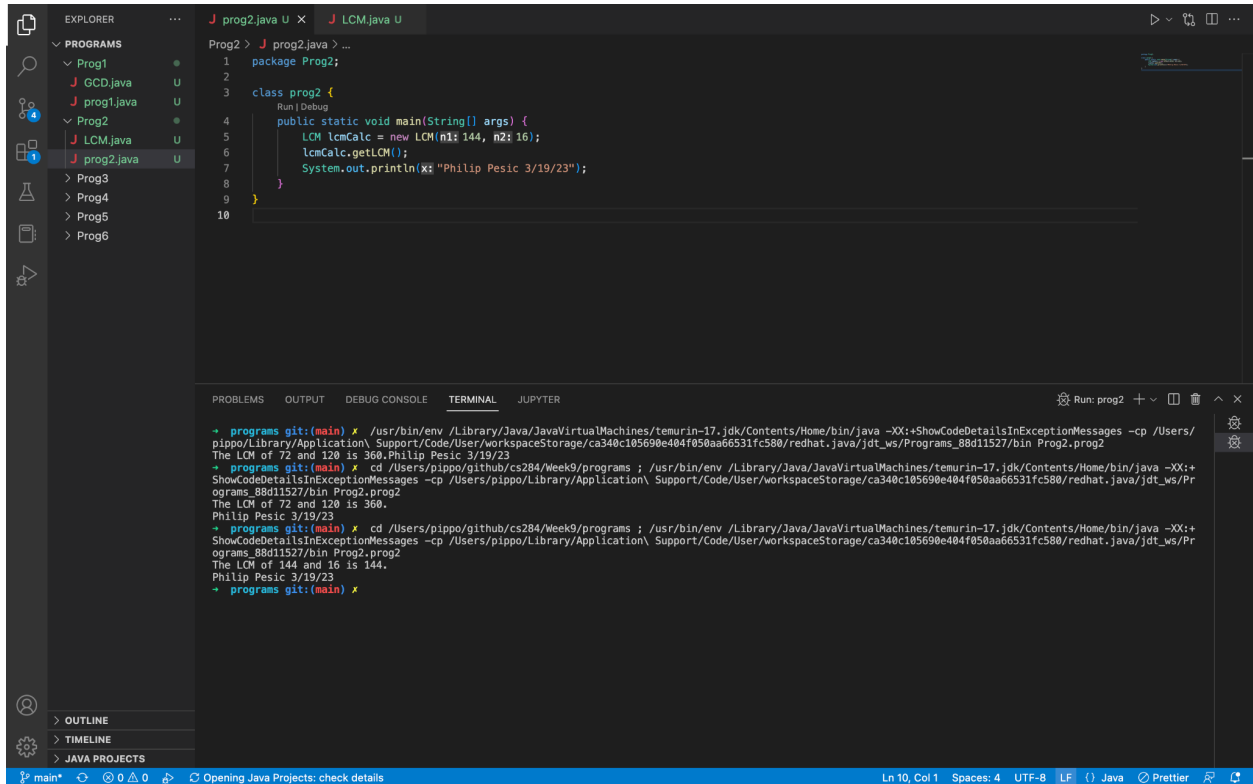
Ln 16, Col 79 Spaces: 4 UTF-8 LF Java Prettier

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The screenshot shows an IDE with a file explorer on the left containing a project named 'PROGRAMS' with subfolders 'Prog1' and 'Prog2'. 'Prog2' contains 'GCD.java', 'prog1.java', 'LCM.java', and 'prog2.java'. The main editor displays the code for 'prog2.java':

```
1 package Prog2;
2
3 class prog2 {
4     public static void main(String[] args) {
5         LCM lcmCalc = new LCM(n1: 144, n2: 16);
6         lcmCalc.getLCM();
7         System.out.println("Philip Pesic 3/19/23");
8     }
9 }
10
```

The bottom panel shows the 'TERMINAL' output:

```
➤ programs git:(main) x /usr/bin/env /Library/Java/JavaVirtualMachines/temurin-17.jdk/Contents/Home/bin/java -XX:+ShowCodeDetailsInExceptionMessages -cp /Users/pippo/Library/Application\ Support/Code/User/workspaceStorage/ca348c185690e404f050aa66531fc580/redhat.java/jdt_ws/Programs_88d11527/bin Prog2.prog2
The LCM of 72 and 120 is 360. Philip Pesic 3/19/23
➤ programs git:(main) x cd /Users/pippo/github/cs284/Week9/programs ; /usr/bin/env /Library/Java/JavaVirtualMachines/temurin-17.jdk/Contents/Home/bin/java -XX:+ShowCodeDetailsInExceptionMessages -cp /Users/pippo/Library/Application\ Support/Code/User/workspaceStorage/ca348c185690e404f050aa66531fc580/redhat.java/jdt_ws/Programs_88d11527/bin Prog2.prog2
The LCM of 72 and 120 is 360. Philip Pesic 3/19/23
➤ programs git:(main) x cd /Users/pippo/github/cs284/Week9/programs ; /usr/bin/env /Library/Java/JavaVirtualMachines/temurin-17.jdk/Contents/Home/bin/java -XX:+ShowCodeDetailsInExceptionMessages -cp /Users/pippo/Library/Application\ Support/Code/User/workspaceStorage/ca348c185690e404f050aa66531fc580/redhat.java/jdt_ws/Programs_88d11527/bin Prog2.prog2
The LCM of 144 and 16 is 144. Philip Pesic 3/19/23
➤ programs git:(main) x
```

I learned: how to use composition to find the lcm of 2 numbers