



TASK 1

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ST40003CMD-Programming: Professional Practice

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1. Write a program that prints Hello World! to the console. Save the program as Hello.java.

The screenshot shows an IDE window titled "Java week1". The Explorer panel on the left shows a project named "JAVA WEEK1" containing a file "Hello.java". The main editor displays the following Java code:

```
1 public class Hello {  
2     public static void main(String[] args) {  
3         System.out.println(x:"Hello World!");  
4     }  
5 }  
6  
7
```

Below the code editor, the TERMINAL panel shows the execution command and output:

```
prachisilwal@Prachis-MacBook-Pro Java week1 % cd /Users/prachisilwal/Java\ week1 ; /usr/bin/env /Library/Java/JavaVirtualMachines/jdk-24.jdk/Contents/Home/bin/java --enable-preview -XX:+ShowCodeDetailsInExceptionMessages -cp /Users/prachisilwal/Library/Application\ Support/Code/User/workspaceStorage/c92c4f100a92de55de3272137b4a3a76/redhat.java/jdt_ws/Java\ week1_909f5707/bin Hello  
Hello World!  
prachisilwal@Prachis-MacBook-Pro Java week1 %
```

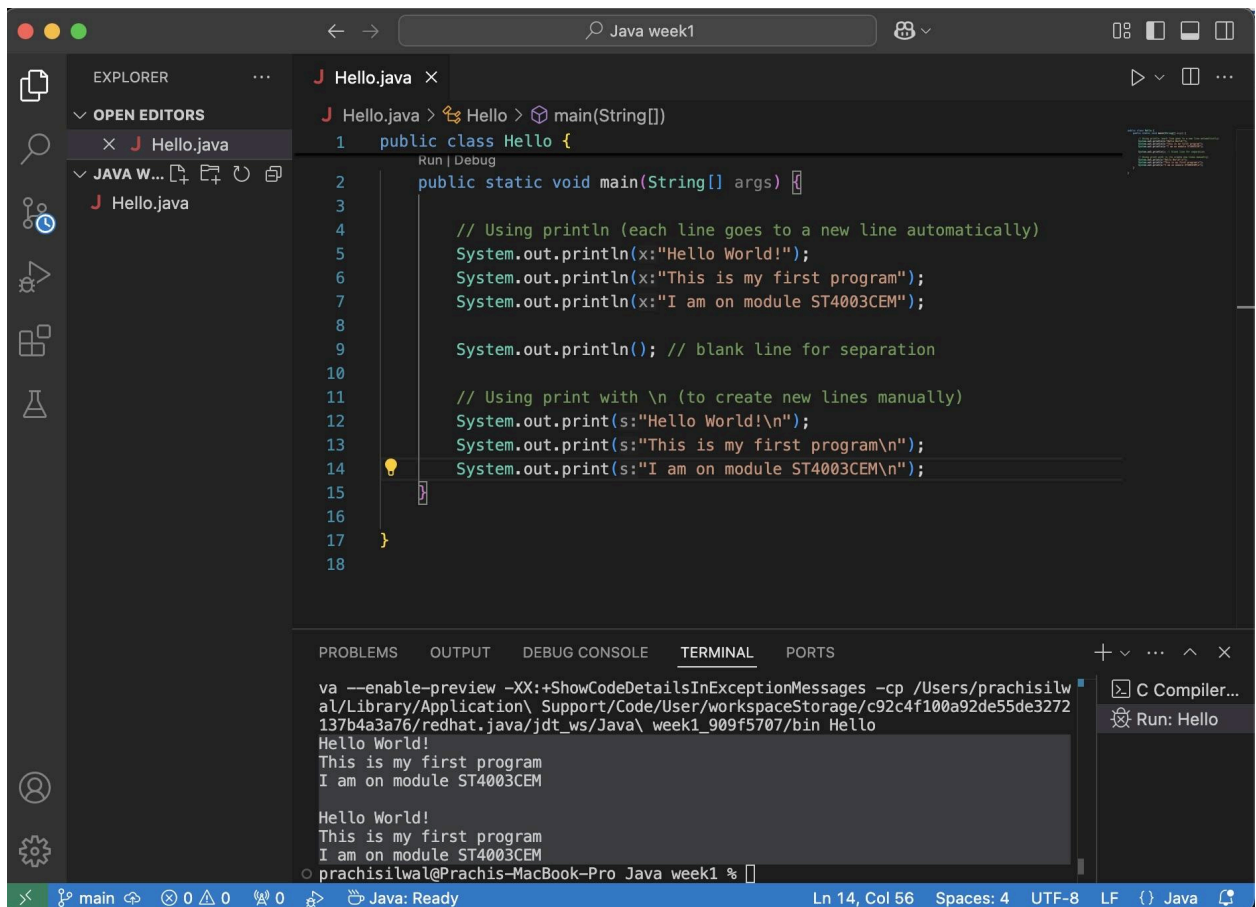
The status bar at the bottom indicates the current file is "main", there are 0 errors and 0 warnings, and the language is "Java".

2. Extend/Modify the above program to print two additional lines:

This is my first program

I am on module ST4003CEM

System.out.print (not println) and produces the same output.



The screenshot shows an IDE with a Java file named `Hello.java`. The code defines a `Hello` class with a `main` method. It uses `System.out.println` to print three lines: "Hello World!", "This is my first program", and "I am on module ST4003CEM". It also includes a blank line using `System.out.println()` and demonstrates `System.out.print` with `\n` for manual line separation. The terminal at the bottom shows the output of the program, which matches the expected output from the text above. The status bar at the bottom indicates the current position is at line 14, column 56.

```
1 public class Hello {  
2     public static void main(String[] args) {  
3  
4         // Using println (each line goes to a new line automatically)  
5         System.out.println(x:"Hello World!");  
6         System.out.println(x:"This is my first program");  
7         System.out.println(x:"I am on module ST4003CEM");  
8  
9         System.out.println(); // blank line for separation  
10  
11        // Using print with \n (to create new lines manually)  
12        System.out.print(s:"Hello World!\n");  
13        System.out.print(s:"This is my first program\n");  
14        System.out.print(s:"I am on module ST4003CEM\n");  
15    }  
16 }  
17  
18
```

va --enable-preview -XX:+ShowCodeDetailsInExceptionMessages -cp /Users/prachisilw
al/Library/Application\ Support/Code/User/workspaceStorage/c92c4f100a92de55de3272
137b4a3a76/redhat.java/jdt_ws/Java\ week1_909f5707/bin Hello
Hello World!
This is my first program
I am on module ST4003CEM

Hello World!
This is my first program
I am on module ST4003CEM
prachisilwal@Prachis-MacBook-Pro Java week1 %

Ln 14, Col 56 Spaces: 4 UTF-8 LF {} Java

3. Write a program that prints the following output:

A "quoted" String is

'much' better if you learn

the rules of "escape sequences."

Also, "" represents an empty

String. Don't forget: use \"

instead of " !

" is not the same as "

```
J EscapeSequencesDemo.java > ...
1  public class EscapeSequencesDemo {
    Run | Debug
2      public static void main(String[] args) {
3          System.out.println(x:"A \"quoted\" String is");
4          System.out.println(x:"'much' better if you learn");
5          System.out.println(x:"the rules of \"escape sequences.\"");
6          System.out.println(x:"Also, \"\" represents an empty");
7          System.out.println(x:"String. Don't forget: use \\\"");
8          System.out.println(x:"instead of \" !");
9          System.out.println(x:"' is not the same as \"");
10     }
11 }
12
```

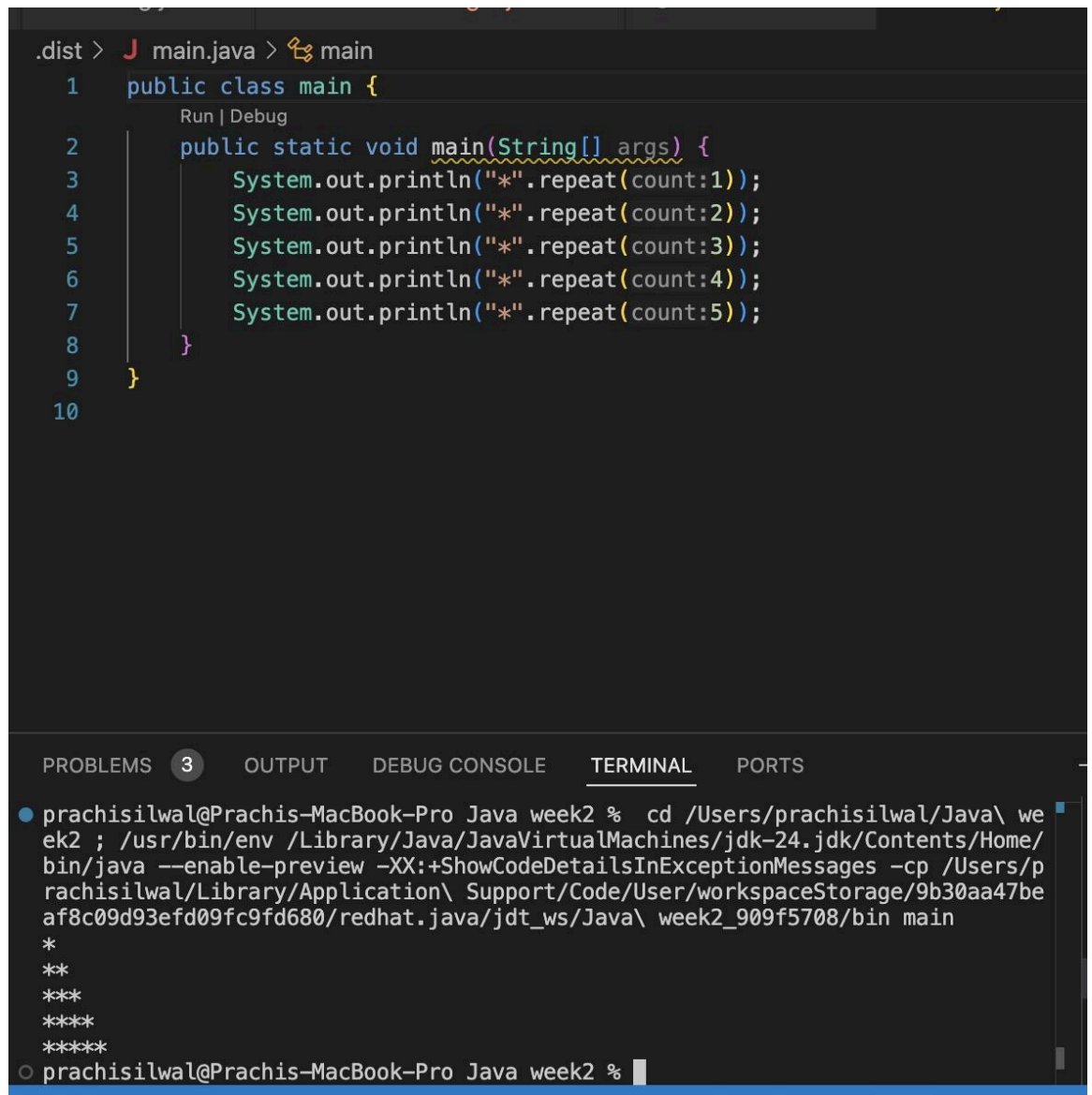
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
location\ Support\Code\User\workspaceStorage\c92c4f100a92de55de3272137b4a3a76/
redhat.java/jdt_ws/Java\ week1_9
09f5707/bin EscapeSequencesDemo
A "quoted" String is
'much' better if you learn
the rules of "escape sequences."
Also, "" represents an empty
String. Don't forget: use \"
instead of " !
' is not the same as "
o prachisilwal@Prachis-MacBook-Pro Java week1 %
```

4. WAP that prints the following pattern:

*

**



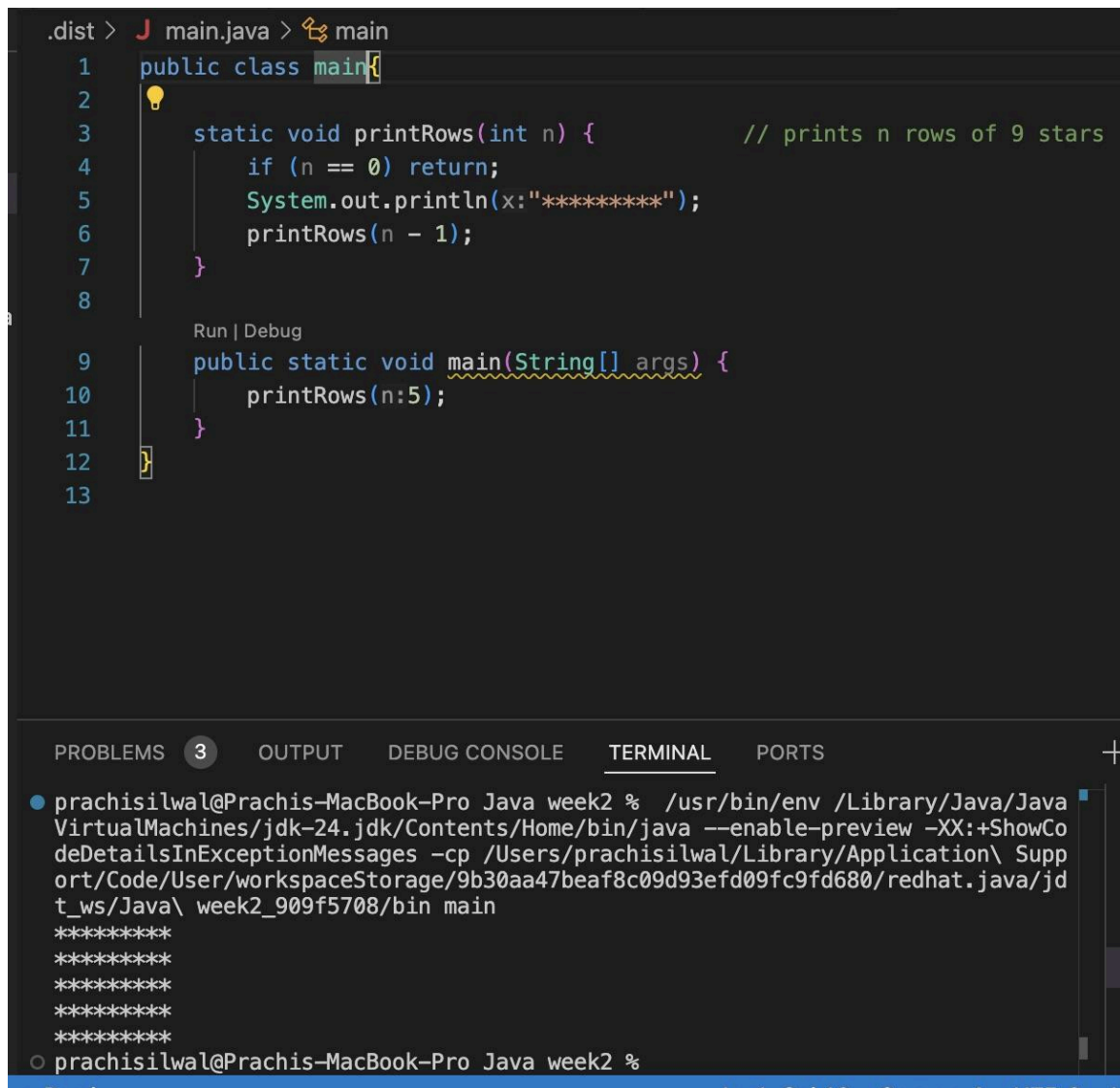
The screenshot shows an IDE with a Java file named `main.java`. The code is as follows:

```
1 public class main {  
2     public static void main(String[] args) {  
3         System.out.println("*".repeat(count:1));  
4         System.out.println("*".repeat(count:2));  
5         System.out.println("*".repeat(count:3));  
6         System.out.println("*".repeat(count:4));  
7         System.out.println("*".repeat(count:5));  
8     }  
9 }  
10
```

Below the code editor, the **TERMINAL** tab is active, showing the command to run the program and its output:

```
prachisilwal@Prachis-MacBook-Pro Java week2 % cd /Users/prachisilwal/Java\ we  
ek2 ; /usr/bin/env /Library/Java/JavaVirtualMachines/jdk-24.jdk/Contents/Home/  
bin/java --enable-preview -XX:+ShowCodeDetailsInExceptionMessages -cp /Users/p  
rachisilwal/Library/Application\ Support/Code/User/workspaceStorage/9b30aa47be  
af8c09d93efd09fc9fd680/redhat.java/jdt_ws/Java\ week2_909f5708/bin main  
*  
**  
***  
****  
*****  
prachisilwal@Prachis-MacBook-Pro Java week2 %
```

5. WAP prints the following pattern:



The screenshot shows an IDE with a Java file named `main.java`. The code defines a `main` class with a `printRows` method and a `main` method. The `printRows` method prints `n` rows of 9 stars each. The `main` method calls `printRows(5)`. Below the code editor, the `TERMINAL` tab is active, showing the command to run the program and the resulting output, which consists of five lines of nine stars each.

```
.dist > J main.java > main
1 public class main{
2
3     static void printRows(int n) {           // prints n rows of 9 stars
4         if (n == 0) return;
5         System.out.println(x:"*****");
6         printRows(n - 1);
7     }
8
9     public static void main(String[] args) {
10        printRows(n:5);
11    }
12 }
13
```

PROBLEMS 3 OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
prachisilwal@Prachis-MacBook-Pro Java week2 % /usr/bin/env /Library/Java/Java
VirtualMachines/jdk-24.jdk/Contents/Home/bin/java --enable-preview -XX:+ShowCo
deDetailsInExceptionMessages -cp /Users/prachisilwal/Library/Application\ Supp
ort/Code/User/workspaceStorage/9b30aa47beaf8c09d93efd09fc9fd680/redhat.java/jd
t_ws/Java\ week2_909f5708/bin main
*****
*****
*****
*****
*****
prachisilwal@Prachis-MacBook-Pro Java week2 %
```

6. WAP that prints the following output:

A well-formed Java program has a main method with { and } braces.

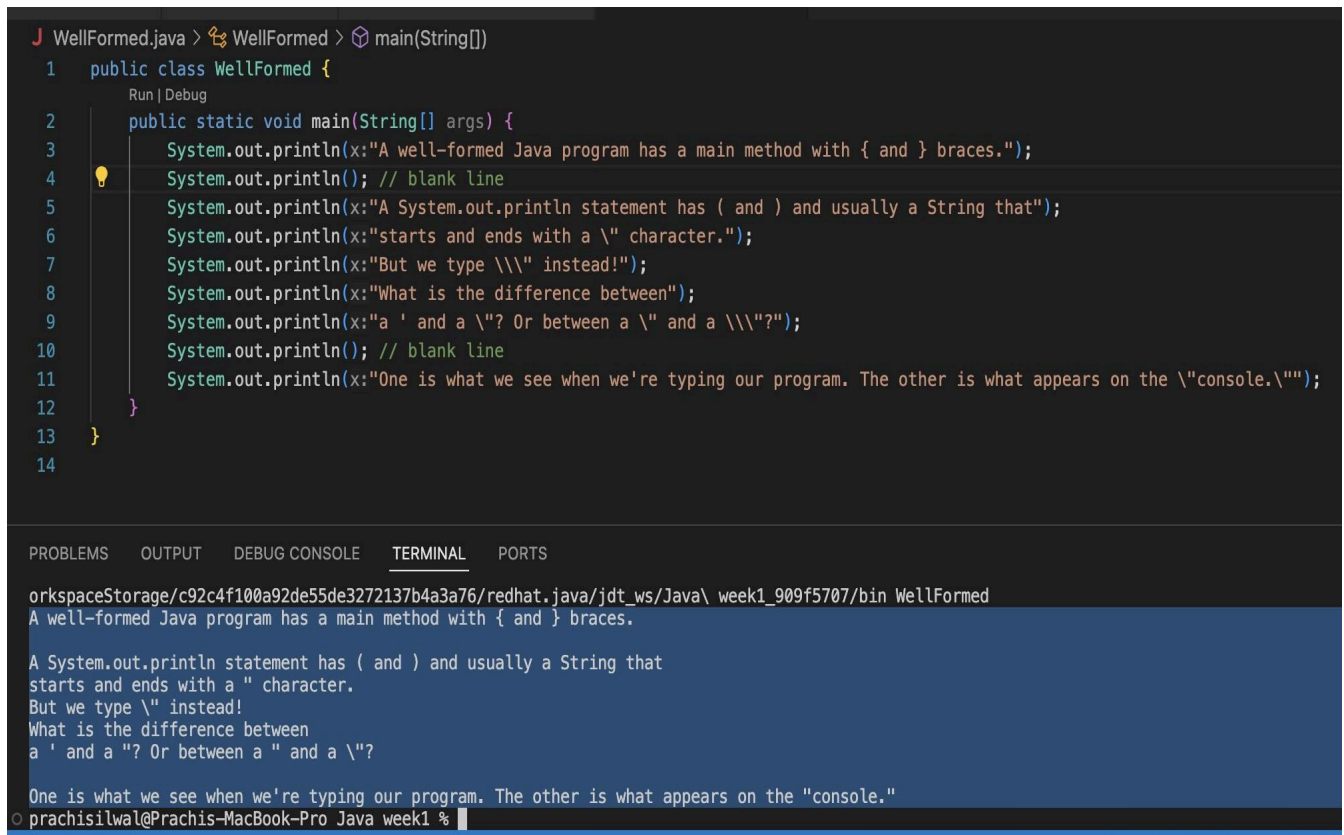
A System.out.println statement has (and) and usually a String that starts and ends with a " character.

(But we type \" instead!)

What is the difference between

a ' and a "? Or between a " and a \"?

One is what we see when we're typing our program. The other is what appears on the "console."



```
J WellFormed.java > WellFormed > main(String[])
1 public class WellFormed {
    Run | Debug
2     public static void main(String[] args) {
3         System.out.println(x:"A well-formed Java program has a main method with { and } braces.");
4         System.out.println(); // blank line
5         System.out.println(x:"A System.out.println statement has ( and ) and usually a String that");
6         System.out.println(x:"starts and ends with a \" character.");
7         System.out.println(x:"But we type \" instead!");
8         System.out.println(x:"What is the difference between");
9         System.out.println(x:"a ' and a "? Or between a \" and a \""?");
10        System.out.println(); // blank line
11        System.out.println(x:"One is what we see when we're typing our program. The other is what appears on the \"console.\"");
12    }
13 }
14
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
orkspaceStorage/c92c4f100a92de55de3272137b4a3a76/redhat.java/jdt_ws/Java\ week1_909f5707/bin WellFormed
A well-formed Java program has a main method with { and } braces.

A System.out.println statement has ( and ) and usually a String that
starts and ends with a " character.
But we type \" instead!
What is the difference between
a ' and a "? Or between a " and a \"?

One is what we see when we're typing our program. The other is what appears on the "console."
prachisilwal@Prachis-MacBook-Pro Java week1 %
```